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October 24, 2024

Dupont Hearing Examiner

RE: Dupont West

Dear Hearing Examiner Ohlbrechts:

Thank you for the opportunity to respond to the WDFW letter submitted after the close of the hearing last week. Our brief response is below. Though the Examiner did not authorize a letter on cultural issues, we also respond briefly to the Nisqually Tribe letter dated October 21, 2024. We are not responding to citizen comments submitted after the hearing since we understood the Examiner authorized only public comment on the WDFW letter. None of the comments submitted fell into that category so we assume those are not part of the record.

**WDFW Letter**

1. The letter is untimely. Note that the letter was not even submitted within the extra time provided by the Examiner, until 5 PM on the 17<sup>th</sup>. WDFW has had ample time to comment, actually several times dating back to the earlier application. Here, they had an early opportunity to comment on the application and SEPA when the project was being fully designed and reviewed by others. Under the SEPA rules, an agency that does not comment within applicable periods is deemed as a matter of law to have no information or no objection. WAC 197-11-545.
2. The City has an adopted standard for the preservation of trees and specifically oak trees. The WDFW guidelines have not been adopted by the City and cannot supplant the adopted standard.
3. The WDFW acknowledges that the preservation of the majority of oaks “readily achieves avoidance of impacts to OWO.” Beyond that are “preferences” and actions that “can” be taken; these are really just suggestions.

Reply to:

Tacoma Office  
1201 Pacific Ave., Suite 2100 (253) 620-6500  
Tacoma, WA 98402 (253) 620-6565 (fax)

Seattle Office  
520 Pike St, Suite 2350 (206) 676-7500  
Seattle, WA 98101 (206) 676-7575 (fax)

4. The cited guidance is new, issued a year after the application and not adopted by Dupont. To our knowledge, only one jurisdiction, Clark County, has adopted the guidance in any form. That County has a tree bank, so the impacts of the strict guidance provisions are more easily mitigated.
5. Having noted those points, the Applicant is aware of the importance of the oaks as evidenced by its already solid plan. We would propose and voluntarily agree to this new condition:

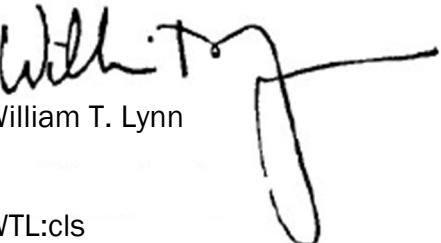
The Applicant will remove the coniferous trees identified in the WDFW letter to the extent the City tree preservation plan will allow such removal. The Applicant will also make commercially reasonable best efforts to incorporate additional oaks into its landscaping plan.

#### **Nisqually Tribe Letter**

1. Again, the letter is untimely, even more so since the Tribe letter came in after the record had closed for all comments except the WDFW letter.
2. The letter contradicts the earlier letter submitted by the Tribe. Given the importance of the statutorily established review and comment timeframes and the interest in finality, the Tribe is not free to change its position every time personnel changes.
3. Like the WDFW, the Nisqually Tribe has participated in the process for years. The Tribe participated in meetings and tribal history was a part of the cultural reports and testimony in the prior process. That involvement only makes the post hearing letter all the more belated.
4. The statements in the letter are not supported. The attached letter and various attached documents from the record make it clear that the letter, even if timely, is not persuasive.

Thank you for the opportunity to respond.

Very truly yours,

  
William T. Lynn  
WTL:cls

**CULTURAL RESOURCES ADDENDUM MEMO  
FOR THE AVENUE 55, LLC LOT Y PROJECT  
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON**

Prepared for:

Avenue 55, LLC  
601 Union Street, Ste. 2930  
Seattle, WA 98101

Prepared by:  
John A. Nadolski, MA



3104 O Street, #221  
Sacramento, CA 95816

October 17, 2022

## EXECUTIVE SUMMARY

DuPont Industrial Partners, LLC in 2011 proposed the development of approximately 25.3-acres of private land at 1700 Center Drive in the City of DuPont, Pierce County, Washington. The parcel of land proposed for development is identified as Lot Y, Assessor's Property Tax Parcel No. 011926-2019. DuPont Industrial Partners, LLC proposed construction of a multi-building industrial park on Lot Y that included a maximum of twelve 12 buildings, parking spaces, roadways, installation of underground utilities, and construction of a trail along Sequalitchew Creek to the south of the proposed development. Parus Consulting, Inc. (PCI) was retained by DuPont Industrial Partners, LLC to conduct cultural resources investigations to facilitate construction of the project and comply with all Washington State Department of Archaeology & Historic Preservation (DAHP) regulations and the State Environmental Protection Act (SEPA). However, DuPont Industrial Partners, LLC did not construct any buildings or develop Lot Y.

Avenue 55, LLC is currently proposing to develop a section of Lot Y that was originally part of DuPont Industrial Partners, LLC proposed 2011 development. Avenue 55, LLC proposes to construct warehouse distribution facilities, parking spaces, and associated underground utilities on approximately 19.65 acres of Lot Y west of Sequalitchew Road. Avenue 55, LLC retained Natural Investigations Company, Inc. (Natural Investigations) to review PCI's report and present any new findings and/or recommendations to facilitate construction of the new project on Lot Y and comply with all state regulations (e.g., DAHP and SEPA) for the identification and protection of cultural resources. The purpose of this addendum is to present the results of Natural Investigations review of PCI's 2011 report and its findings, including any changes to the report or findings and/or any new recommendations for the protection of cultural resources.

PCI conducted cultural resources investigations for the proposed project on Lot Y in 2011. The investigations included a pedestrian survey and excavation of 125 shovel test probes and 22 geotechnical exploration pits. PCI's cultural resources investigations were conducted under Archaeological Excavation Permit (Permit) No. 2010-54 approved by the DAHP on February 7, 2011 and were monitored by a member of the Nisqually Tribe.

PCI's pedestrian survey and excavations did not identify any evidence of previously recorded sites and isolates on Lot Y including sites 45PI66, the site of a Methodist Episcopal Mission and 45PI455, the site of a 9th U.S. Cavalry Bivouac, and a flaked stone isolate, 45PI773. In addition, PCI cultural resources investigations confirmed previous reports that two sites 45PI63, Railroad Dump #3, and 45PI64, Burning Ground Dump, formerly located on Lot Y were completely destroyed/removed over twenty years ago as part of hazardous materials remediation across Lot Y. PCI did identify two new historic sites, 45PI01224, a segment of railroad track, and 45PI01225, a concrete platform and one isolated kerosene can on Lot Y.

Sites 45PI455 and 45PI66 were previously determined eligible for the National Register of Historic Places (NRHP) at 36 Code of Federal Regulations (CFR) Part 60.4 [a-d] under Criterion A because of their association with significant events in history, but there are no extant remnants of the sites on Lot Y. Sites 45PI01224 and 45PI01225 are not in the section of Lot Y currently proposed for development and do not meet any of the eligibility criteria for inclusion on the NRHP or the Washington Heritage Register (WHR) as described in Revised Code of Washington (RCW) 27.34.200. Consequently, PCI determined that no historic properties would be affected by development of Lot Y and because of the archaeological sensitivity of the area also recommended and prepared an Unanticipated Cultural Resources Discovery Plan for the project. PCI's report was filed with the DAHP and sent to the appropriate Tribes.

Natural Investigations reviewed PCI's 2011 report and the results of their cultural resources investigations. The cultural resources investigations and findings presented in the report for development of Lot Y are adequate and remain valid for Avenue 55, LLC's currently proposed project. Indeed, reduction in the size of the current project places sites 45PI01224 and 45PI01225 outside project boundaries. Therefore, Natural Investigations confirms the findings presented in PCI's 2011 report, does not recommend any additional investigations, and pursuant to DAHP regulations and SEPA Checklist Section B, Number 13, determines

that construction of the project currently proposed by Avenue 55, LLC would not affect any historic properties (i.e., properties eligible for or listed on the NRHP) or properties that could be eligible for the WHR.

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APPENDIX A: Archaeological Survey, Testing, and Monitoring at 45PI66, 45PI455 and 45PI773, DuPont Industrial Partners, LLC, Lot Y Project, City of DuPont, Pierce County, Washington. Report prepared by Parus Consulting, Inc. 2011

## INTRODUCTION

DuPont Industrial Partners, LLC in 2011 proposed the development of approximately 25.3-acres of private land at 1700 Center Drive in the City of DuPont, Pierce County, Washington. The parcel of land proposed for development is identified as Lot Y, Assessor's Property Tax Parcel No. 011926-2019. DuPont Industrial Partners, LLC proposed construction of a multi-building industrial park on Lot Y that included a maximum of twelve 12 buildings totaling approximately 340,000 square feet of building space, roadways, loading areas, approximately 650 parking spaces, installation of underground utilities, and construction of a trail along Sequalitchew Creek to the south of the proposed development. PCI was retained by DuPont Industrial Partners, LLC to conduct cultural resources investigations to facilitate construction of the project and comply with all DAHP regulations and SEPA. However, DuPont Industrial Partners, LLC did not construct any buildings or develop Lot Y.

Avenue 55, LLC is currently proposing to develop part of Lot Y that was originally part of DuPont Industrial Partners, LLC proposed 2011 development. Avenue 55, LLC retained Natural Investigations to review PCI's report and present any new findings to facilitate construction of the new project on Lot Y and comply with all state regulations (e.g., DAHP and SEPA) for the identification and protection of cultural resources. The purpose of this addendum is to present the results of Natural Investigations review of PCI's 2011 report and its findings, including any changes to the report or findings and/or any new recommendations for the protection of cultural resources.

## PROJECT LOCATION AND DESCRIPTION

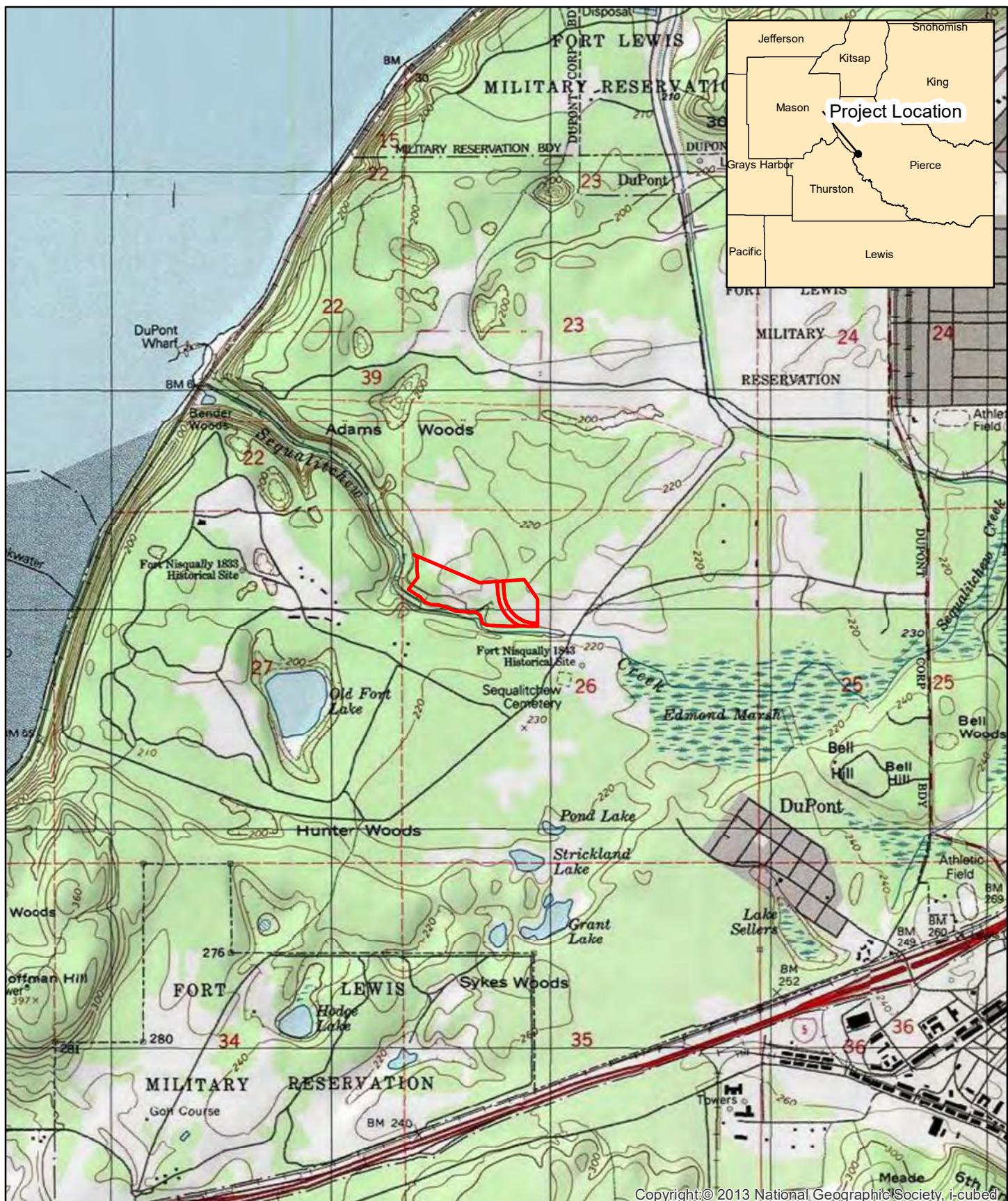
Avenue 55, LLC proposes to develop an approximately 19.65 acres parcel of land identified as Lot Y, Assessor's Property Tax Parcel No. 011926-2019 in the City of DuPont, Pierce County, Washington (Figure 1). The proposed development includes construction of two warehouse distribution facilities totaling approximately 268,380 square feet, 202 parking spaces, and associated underground utilities west of Sequalitchew Road (Figure 2).

## REGULATORY SETTING

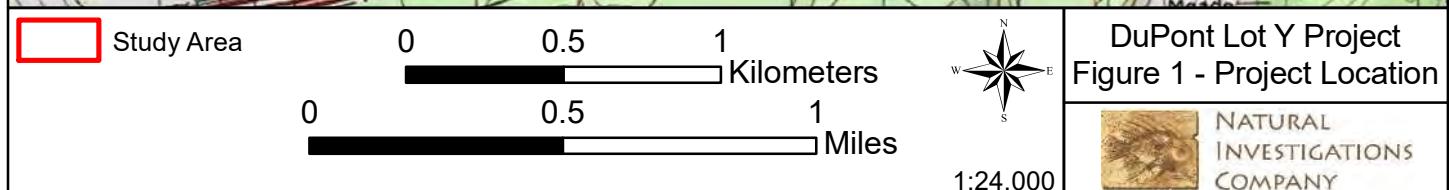
There is no federal involvement in the project as currently proposed. PCI's and Natural Investigations cultural resources investigations for the proposed project were conducted under prevailing Washington state laws that protect cultural resources (e.g., prehistoric archaeological sites, historic sites, historic buildings, and Native American sites and graves). These laws include Executive Order 05-05 (currently revised as Executive Order 21-02), Indian Graves and Records (RCW 27.44), Archaeological Sites and Resources (RCW 27.53), Archaeological Excavation and Removal Permit (Washington Administrative Code [WAC] 25-48), and Discovery of Human Remains (RCW 27.44). In addition, PCI obtained a permit to conduct cultural resources investigations including excavations within boundaries of known archaeological sites. The Permit (No. 2010-54) was completed pursuant to requirements at WAC 25-48-060.

## REPORT ADDENDUM PREPARATION

John A. Nadolski, MA was the Principal Investigator for this project and is primary author of this report addendum. Mr. Nadolski has more than thirty-five years of experience in archaeology and exceeds all requirements of the *Secretary of Interior's Qualifications Standards* (36 CFR Part 61; National Park Service 1983) and the DAHP. The format of this report addendum follows DAHP guidance.



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Map Date 10/12/2022

Nisqually 1997 Quadrangle: Township 19N, Range 1E, Section 26



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1:24,000

NOT FOR CONSTRUCTION

**DRAFT**

REUSE OF DOCUMENTS  
THIS DOCUMENT HAS BEEN SIGNED ELECTRONICALLY IN ACCORDANCE WITH THE STATE OF WASHINGTON'S E-SIGN ACT. ANY UNAUTHORIZED ALTERATION OF ANY OF THE INFORMATION ON THIS DOCUMENT WILL INVALIDATE THE SIGNATURE. THIS DOCUMENT IS THE PROPERTY OF THE CITY OF DUPONT. IT IS THE PROPERTY OF INNOVA ARCHITECTS AS AN INSTRUMENT OF THE PROFESSIONAL SERVICES. IT IS NOT TO BE USED IN WHOLE OR IN PART, OR IN ANY OTHER FORM, WITHOUT WRITTEN AUTHORIZATION OF INNOVA ARCHITECTS.

Revisions:  
Sheet Title:

Preliminary  
Site Plan, Option A

Designed by: B. Ludwig, J. Eaves

Drawn by: B. Ludwig, J. Eaves

Checked by: P. McCormick

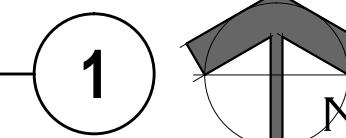
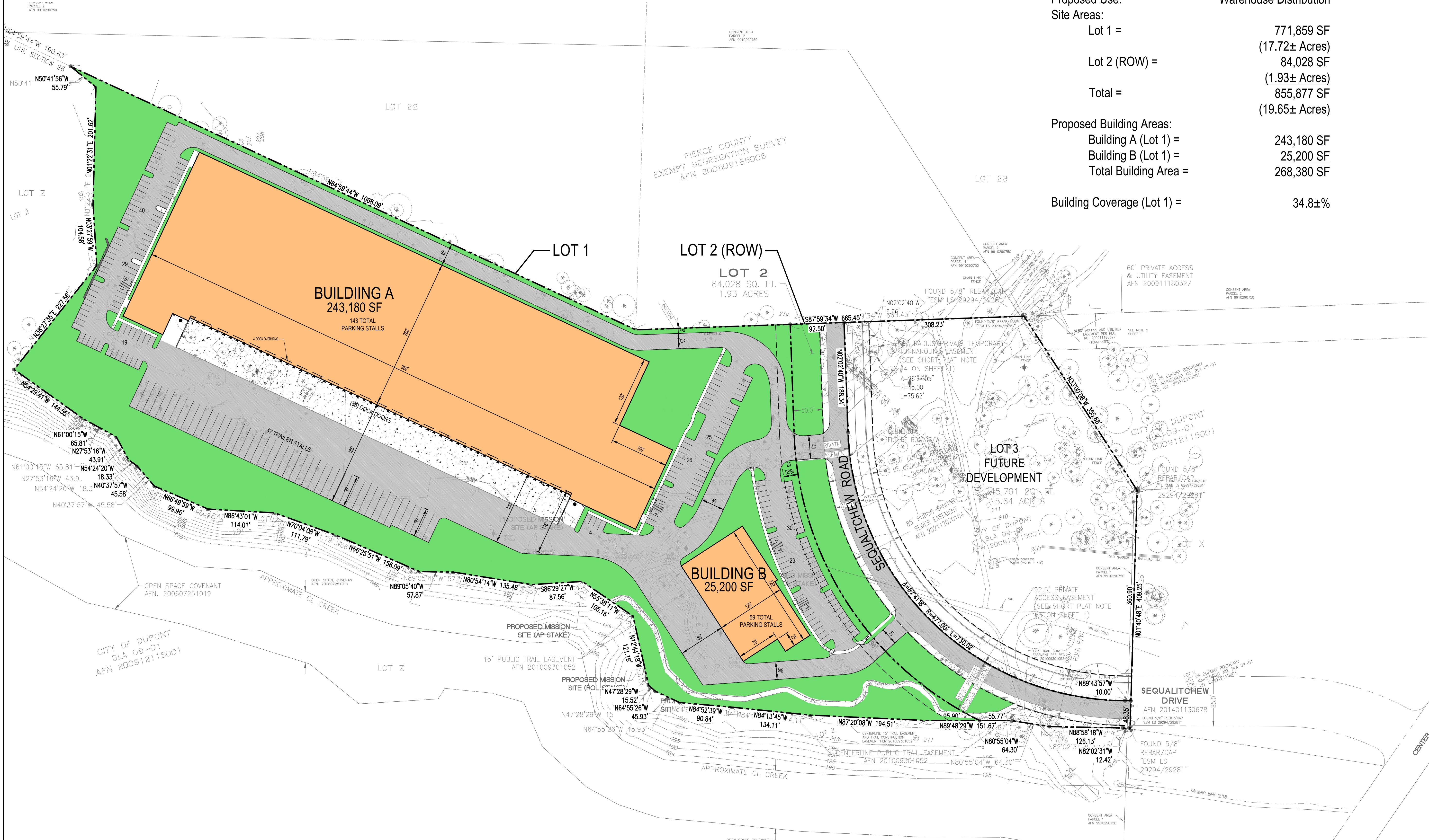
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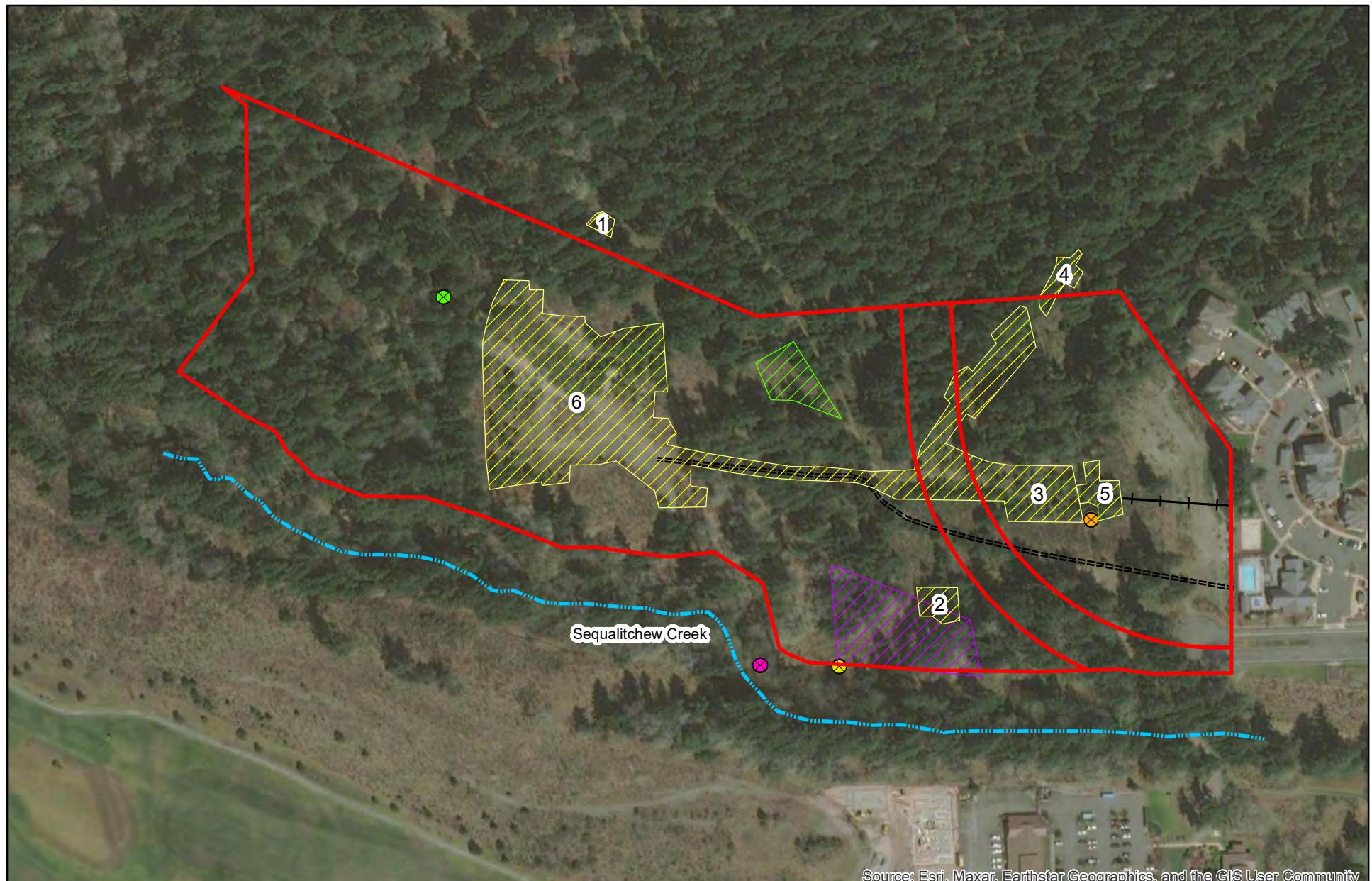
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## SITE DETAILS

Site Address:	1700 Center Drivet Dupont, WA 011926-2019
Parcels:	Manufacturing and Research (MRP)
Zoning:	Warehouse Distribution
Proposed Use:	
Site Areas:	
Lot 1 =	771,859 SF (17.72± Acres)
Lot 2 (ROW) =	84,028 SF (1.93± Acres)
Total =	855,877 SF (19.65± Acres)
Proposed Building Areas:	
Building A (Lot 1) =	243,180 SF
Building B (Lot 1) =	25,200 SF
Total Building Area =	268,380 SF
Building Coverage (Lot 1) =	34.8±%





Lot Y Boundary	45-PI-01226
Hot Spot Excavations	45-PI-00064
45-PI-66	45-PI-01225
45-PI-455	45-PI-01224
45-PI-773	===== Existing Gravel Road

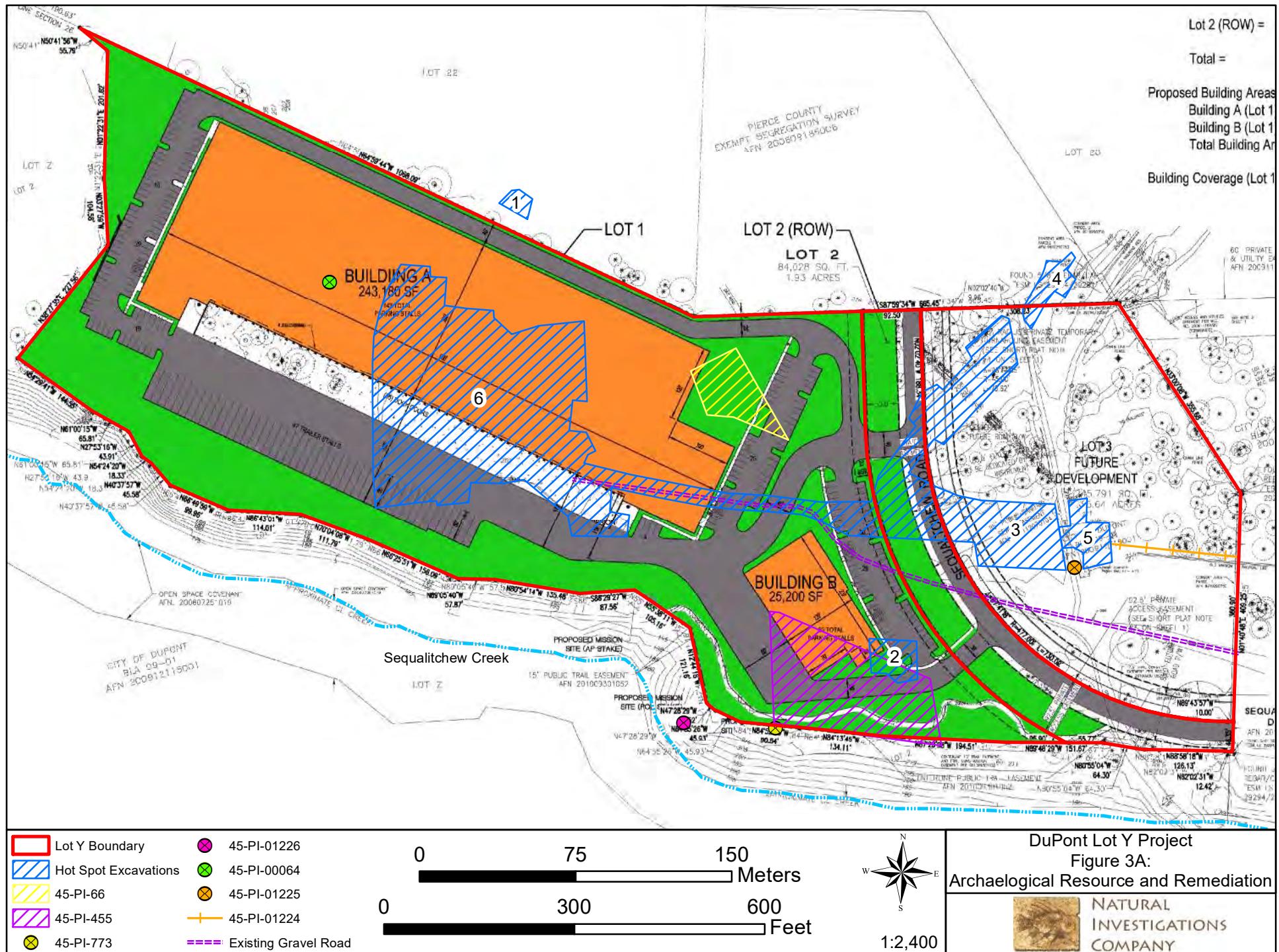
0 100 200 Meters

0 400 800 Feet



1:3,000

DuPont Lot Y Project  
Figure 3:  
Archaeological Resource and Remediation  
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## RESEARCH METHODS AND FINDINGS

PCI conducted a cultural resources records search for the project on October 21, 2010 using the DAHP electronic GIS database to identify previously recorded sites and previously conducted surveys on and near Lot Y (Tables 1 and 2). PCI also conducted tribal consultation (i.e., cultural representatives or Tribal Historic Preservation Officers for the Nisqually, Puyallup and Squaxin Tribes were contacted regarding the project), a pedestrian survey, subsurface testing, and monitoring of geotechnical subsurface exploration on Lot Y in February and March 2011. All PCI investigations were conducted under DAHP Permit No. 2010-54.

**Table 1. Previous Studies on or near Lot Y**

Year	Author(s)	Report Title	Proximity to Lot Y
1977	Onat, A.R., Lee A. Bennett, and Timothy Riordan	Cultural Resources Survey: DuPont Site, Volume I, Survey of Archaeological and Ethnographical Resources at the DuPont Site	Within and near Lot Y
1977	Stratton, David H., and Glen W. Lindeman	Cultural Resource Survey, DuPont Site, Volume II: Survey of Historical Resources at the DuPont Site	Within and near Lot Y
1989	Welch, Jeanne	A Cultural Overview and Comprehensive Management Plan for the DuPont Property, Pierce County, Washington	Within and near Lot Y
1990	Stilson, M. Leland	A Data Recovery Study of 45PI401, Hudson's Bay Dwellings at Northwest Landing, Pierce County, Washington	0.1 mile east
1991	Moura, Guy F.	Missions, War Games, and Railroad Dumps: 1989 Explorations and Excavations, Northwest Landing, DuPont, Washington	Within
1991	Stilson, M. Leland	A Data Recovery Study of 45PI405, the 1843 Fort Nisqually Village at Northwest Landing, Pierce County, Washington	0.1 mile east
2000	Daugherty, Richard, and Mary Condon	Archaeological Monitoring of the "Hot Spot" Removal Program, the Hazardous Waste Stockpile Areas, and Sand Stockpile Laydown Areas at the Former DuPont Works Site, DuPont, Washington	Within
2001	Daugherty, Richard, and Mary Condon	An Update on the Archaeological Status of Sites 45PI63 (A Trash Dump Located Along a Railroad Spur), 45PI64 (Burning Ground Dump), 45PI66 (Methodist Episcopal Mission), and 45PI455 (Part of the 9th Cavalry Bivouac Area)	Within and near Lot Y
2002	Maass, Alex	Interim Archaeological Monitoring Report for the Former DuPont Works Site, Parcel 1	Adjacent (to west)
2003	Maass, Alex	2002 Field Season Archaeological Monitoring Report for the Former DuPont Works Site, Parcel 1	Adjacent (to west)
2003	Wessen, Gary	Exploring the Boundary and Possible Interpretation of 45PI485	South of creek
2004	Wessen, Gary	Archaeological Testing at 45PI576, Former DuPont Works Site, City of DuPont, Pierce County, Washington	South of creek
2005	Dampf, Steven	Archaeological Monitoring Report for the 2003 and 2004 Field Seasons at the Former Dupont Works Site Parcel 1, City of DuPont, Pierce County, Washington	Adjacent (to west)
2005	Wessen, Gary, Cathy Bialas and Gail Thompson	Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near Lot Y
2006	Thompson, Gail	Archaeological Implementation Report for Remediation of Soils at the Former DuPont Works Site Parcel 1, City of DuPont, Pierce County, Washington	Adjacent (to west)
2008	Wessen, Gary, Cathy Bialas, Derek Shaw and Gail Thompson	Revised Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near Lot Y

**Table 2. Previously Recorded Sites on Lot Y**

Site No.	Brief Description	Recorded By/Year	Prior Reports	NRHP Eligibility
45PI00063	Historic debris deposit, two loci along railroad, 1910- 1930; removed during soil remediation	Riordan, 1977; Daugherty, 1993 NRHP form	Blukis Onat et al., 1977; Welch, 1989a; Moura, 1991a; Daugherty and Condon, 2001	Not eligible
45PI00064	Historic DuPont Powder Works burning ground dump, 1930s-1945; removed during soil remediation	Riordan, 1977; Daugherty, 1993 NRHP form	Blukis Onat et al., 1977; Welch, 1989a; Daugherty and Condon, 2000, 2001	Not eligible
45PI00066	Historic 1840-1842 Methodist Episcopal Mission	Riordan, 1977; Daugherty, 1993 NRHP form	Blukis Onat et al., 1977; Welch, 1989a; Moura, 1991a; Daugherty and Condon, 2000, 2001	Eligible, included in proposed Nisqually- Sequalitchew Historic District
45PI00455	Historic 9th U.S. Cavalry Bivouac, Camp Nisqually, 1904; partially removed during soil remediation	Daugherty, 1997; Daugherty, 1997 NRHP form	Moura, 1991a, 1991b; Daugherty and Condon, 2000, 2001	Potentially eligible, included in proposed Nisqually- Sequalitchew Historic District
45PI00773	Prehistoric chipped stone isolate	Wessen, 2005	Wessen et al., 2005, 2008	Not eligible

## SURVEY

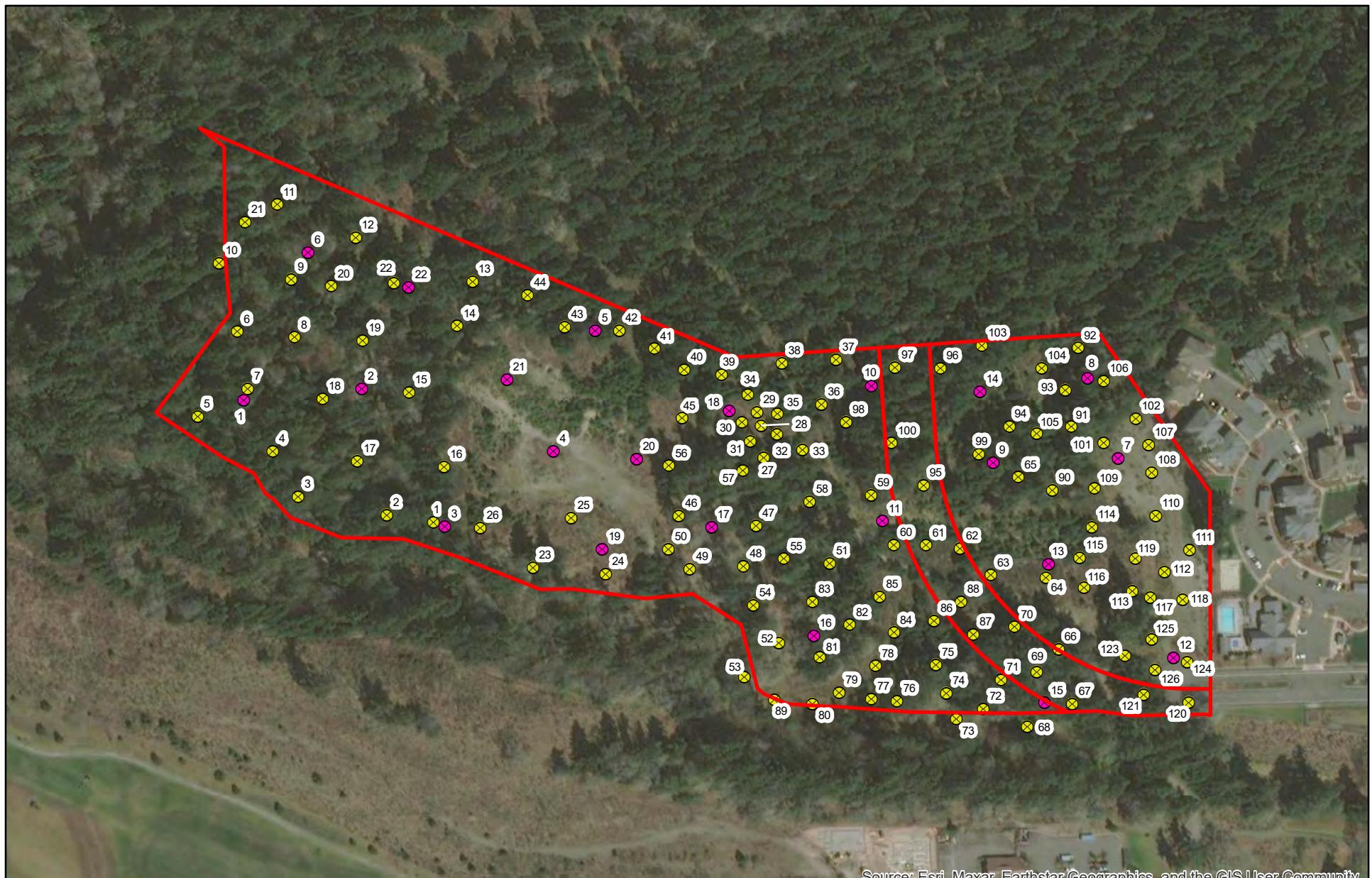
PCI conducted a pedestrian surface survey across the entire 25.3-acre original project area. Transect spacing was no greater than 15 meters apart and survey was accomplished on an east-to-west bearing.

## EXCAVATIONS

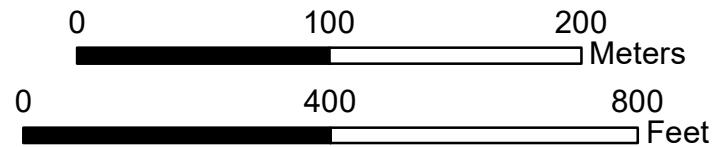
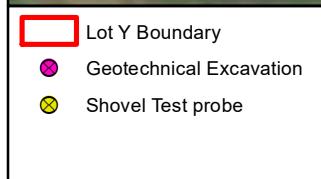
Following the pedestrian survey, 125 shovel test probes (STPs) and 22 geotechnical excavations (GTEs) were excavated across Lot Y at random intervals as shown on Figure 4. At the request of the City of DuPont and the DAHP, no STPs were placed in existing trails, pedestrian paths, or gravel roadways. Additionally, all STPs were backfilled and compacted daily. The STPs and GTEs were excavated using a backhoe with a 2-foot bucket attachment and smooth plate. The excavation of the STPs and GTEs totaled approximately 450 cubic meters of soil.

Each of the 125 STPs measured 3 feet in length and 2.5 feet in width. STP levels were dug in 7-cm (3- inch) increments or until sterile gravels were encountered. Soils taken from the STPs were screened through 1/8-inch hardware cloth. No STPs were placed in three hot spots, HS-3, HS-4, and HS-6, that include the former locations of sites 45PI00063 and 45PI00064 where prior soil remediation efforts removed contaminated soils and where sterile gravel is now exposed across these areas of Lot Y (Figures 2 and 4). Sterile gravel was encountered in 123 of 125 STPs between 35 and 130 centimeters below the surface (cmbs) (1.1-4.3 feet) and mixed stratigraphy or fill was present in two STPs. Records for the individual STPs, detailing levels, soil texture, color, and comments are included in Appendix C of PCI's 2011 report included as Appendix A of this memo.

Each of the 22 GTEs measured 3 feet wide by 5 feet long. GTE upper levels were dug in 3 inch (7 centimeter) increments or until sterile gravels were encountered. Lower levels of the GTEs, after encountering sterile gravels, were dug in 1 foot increments. Four of the GTEs were excavated in hot spot removal areas (Figures 2 and 4). Soils taken from the GTEs at 4 feet, 6 feet, and 10 feet were screened through 1/8-inch hardware cloth. Twenty GTEs were excavated to 305 cmbs (10 feet); one GTE with mixed stratigraphy was terminated at 250 cmbs (8.2 feet); one GTE filled with water at 244 cmbs (8 feet). Records for the individual GTEs, detailing levels, soil texture, color, and comments, are included in Appendix C of PCI's 2011 report included as Appendix A of this memo.



Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



DuPont Lot Y Project  
Figure 4: Subsurface Testing Map



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## **Surface Survey Results**

All undeveloped ground surface areas in the boundaries of Lot Y were examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, fire pits, soil depressions, and features indicative of the former presence of structures or buildings (e.g., postholes, foundations), or historic debris (e.g., metal, glass, ceramics). Ground disturbances, including a graveled dirt road and dirt two-track, were visually inspected.

Surface survey did not identify any remnants of sites 45PI00063, 45PI00064, 45PI00455, or isolate 45PI00773. Survey did identify two brick fragments at the recorded location of site 45PI00066, three new historic sites, and a historic isolate. The three sites include 45PI01224, a segment of a previously identified narrow-gauge railroad track and grade, 45PI01225, a concrete railroad loading platform, and 45PI01226, a set of railroad bridge abutments. The isolate, 45PI00064, is a galvanized kerosene can. Only the isolated kerosene can, 45PI00064, is in the new Avenue 55, LLC project boundaries. No artifacts were collected. PCI archaeologists completed the appropriate Washington Archaeological Site Inventory and Isolate forms for all archaeological materials identified during the survey.

## **Subsurface Testing Results**

The subsurface stratigraphy was consistent in 123 of the 125 STPs and all 22 GTEs excavated in the boundaries of Lot Y (Figure 4). The soil throughout the project area is consistent with the description for the Spanaway series developed on glacial outwash sediments. There are three soil horizons, though horizon 2 is not present in all STPs or GTEs. The depth of the horizons varies across the Lot Y landscape in relation to the topography and prior human disturbance. Horizon 1 is a moist, very dark brown (10 YR 2/2) gravelly sandy loam with weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots with a very high organic matter content. Horizon 2 is a moist very fine crumb dark gray brown (10 YR 3/2) gravelly sandy loam with little distinction in texture from horizon 1. Horizon 3 is moist and fluctuates between a dark gray brown (2 YR 4/2) and an olive brown (2YR 4/4) gravelly sand with no soil matrix. The single grained, loose sand is the prominent content with some rounded to sub-rounded cobbles; it is also very compact.

Only two of the subsurface units (STPs 28 and 115) contained cultural material. A brick fragment, measuring 3x4x2 inches, was located at 20 cmbs (8 inches) in STP 28 within site 45PI66 (Methodist Episcopal Mission). The brick was not handmade and no maker's marks were located on the fragment. Additionally, a smaller brick fragment was located at ground level within inches of STP 35 (also within 45PI66). STP 115 is located 18.5 feet due east of a concrete platform and the soil is entirely mixed down to a level of 200 cmbs (6.6 feet). A flat iron bar with four bolts protruding was located at 160 cmbs (5.2 feet). The iron bar measured 24 inches long by 3 inches wide and 1/8<sup>th</sup> inch thick, and has four 3.5-inch metal bolts spaced roughly 7 to 8 inches apart. The iron bar appears to be associated with the concrete platform, given its close proximity and the paint on the bolt heads matches the metal on the platform.

All but two of the 125 STPs (STP 89 and 115) were excavated until sterile gravel was encountered. Although the presence of the Spanaway series soil horizons was consistent, the depth of sterile gravel varied from 35 cmbs to 130 cmbs (1.1-4.3 feet) across Lot Y. STP 115 had mixed stratigraphy and was excavated to a depth of 200 cmbs (6.6 feet). The soil in STP 89 is a moist, brown (7.5 YR 4/4) silty loam until the typical underlying horizon appears at 110 cmbs (3.6 feet) as a moist, dark green brown (2.5 YR 4/4) gravelly sand. The typical upper horizon of gravelly sandy loam appears to have been removed near STP 89 and replaced with imported soil. The STP was placed 66 feet northeast of the set of bridge abutments. It seems likely that more stable soil was imported for the approach to the narrow-gauge bridge that once crossed Sequalitchew Creek.

Six of the STPs located in the eastern portion of the project (STPs 113, 116-119) near the gravel road display a gray upper horizon not noted in any other portion of the project area. The moist, dark gray (2.5 YR 3/1) soil is similar in structure to the typical horizon 1, but is noticeably different in color and is relatively thin (0-25 cm [0-9.8 inches]), and is likely related to prior disturbance.

STPs 120 through 125, located in the southeastern portion of the project area, all show evidence of a grass fire. Small flecks of charcoal are noted in the upper 5 cm of each unit. Of these six STPs, only STP 120 that is nearest to the creek extending to a depth of 95 cmbs (3.1 feet) and exhibited horizon 2.

In summary, only two artifacts were identified during excavation of the STPs. The two artifacts are the brick fragment recovered from STP 28 and the iron bar from STP 115. No other cultural material was identified as a result of excavation across Lot Y.

### **Geotechnical Subsurface Exploration Results**

Twenty-two GTEs were excavated across Lot Y (Figure 4) to a depth of 305 cmbs (10 feet). Two GTEs, 9 and 14, were excavated to depths of 250 cmbs (8.2 feet) and 244 cmbs (8 feet), respectively. The soils throughout the GTEs are relatively consistent with the Spanaway series, although only five GTEs, 1, 3, 5, 12, 13, and 15, exhibit horizon 2. In the eastern section of Lot Y, GTE 9 has mixed stratigraphy and was excavated to a depth of 250 cmbs (8.2 feet). The upper horizon is a thin layer of sand (0-20 cmbs [0-8 inches]) followed by a mix of horizon 1 very dark brown (10 YR 2/2) gravelly sandy loam and sand with very few cobbles. It appears to be imported fill material. This unit is in close proximity to two of the hot spots, HS-3 and HS-4. In the northeastern section of Lot Y, GTE 14 was terminated at 244 cmbs (8 feet) when water entered the unit and began to fill rapidly. No cultural material was located in any of the 22 GTEs excavated across Lot Y.

## **CONCLUSIONS AND RECOMMENDATIONS**

PCI completed an intensive-level pedestrian survey, subsurface testing (i.e., excavation of approximately 450 cubic meters of soil), monitored excavation of geotechnical exploration pits, and prepared an Unanticipated Cultural Resources Discovery Plan. PCI's investigations did not identify any evidence of site 45PI66, the Methodist Episcopal Mission, site 45PI455, a 9th U.S. Cavalry Bivouac, isolate 45PI773, a piece of chipped stone, or sites 45PI63 and 45PI64 that are reported as being destroyed as part of the hazardous materials remediation project that occurred across Lot Y. PCI did identify two new sites, 45PI1224, a segment of railroad track, and 45PI01225, a concrete platform, and isolate 45PI00064, a kerosene can.

Site 45PI66, the Methodist Episcopal Mission, is eligible for the NRHP under Criterion A for its association with significant events and also contributes to the proposed Nisqually-Sequalitchew Historic District, but the site is not eligible under Criterion D because there are no physical remains of the mission present on Lot Y. Similarly, site 45PI455, the location of the brief occupation of the area by the 9<sup>th</sup> U.S. Cavalry Buffalo Soldiers, is potentially eligible for the NRHP as a contributing element to the proposed Nisqually-Sequalitchew Historic District under Criterion A, but is not eligible under Criterion D because there are no physical remains of the bivouac area present on Lot Y. The two new sites in Lot Y, 45PI1224, a railroad track segment, and 45PI01225, a concrete platform, are recommended ineligible for the NRHP. The two isolates, 45PI773 and 45PI00064, are not eligible for the NRHP. In addition, new site 45PI01226, bridge abutments, located immediately outside the boundaries of Lot Y, is also recommended ineligible for the NRHP.

Lot Y has been extensively disturbed beginning with historic period settlement in the early 1880s, operation of the DuPont Powder Works in the early to mid-1900s (including use of part of Lot Y as a burning ground

dump from the 1930s until 1945), subsurface archaeological investigations and related artifact collection between 1989 and 2005, and environmental remediation activities in 1999 and 2000. In addition, survey and excavation by PCI did not identify any significant cultural resources. Therefore, PCI determined that no further cultural resources investigations were warranted prior to the development of Lot Y and that the development of the property would not affect any historic properties.

Regardless, the results of the literature research, local ethnographic settlement and subsistence patterns, the prehistory and history of the vicinity, and DAHP's predictive model, the project area is considered highly sensitive for prehistoric, ethnohistoric, and historic-era cultural resources. Consequently, PCI completed an Unanticipated Cultural Resources Discovery Plan for the development of Lot Y (Appendix E of PCI's report attached as Appendix A to this memo).

Natural Investigations reviewed PCI's cultural resources report titled *Archaeological Survey, Testing and Monitoring at 45PI66, 45PI455 and 45PI773, DuPont Industrial Partners, LLC, Lot Y Project, City of DuPont, Pierce County, Washington* for the currently proposed development of Lot Y by Avenue 55, LLC and

- finds that the report is adequate for the currently proposed development of Lot Y;
- does not recommend any additional investigations for the currently proposed project because of the scale (e.g., excavation of 450 cubic meters of soil) and nature (e.g., soils remediation) of the previous investigations conducted across Lot Y;
- concurs with the findings in the report that sites 45PI00063, 45PI00064, 45PI00455, 45PI01224, and 45PI01225 do not meet the eligibility criteria for inclusion on the NRHP or the WHR;
- finds that sites 45PI01224 and 45PI01225 are not in the boundaries of the currently proposed project on Lot Y;
- concurs with PCI that implementation of the previously proposed project that includes areas of Lot Y currently proposed for development would not affect any historic properties as defined at 36 CFR 800, the SEPA Checklist Section B, Number 13, and the DAHP;
- recommends that the inadvertent discovery plan prepared by PCI should be updated to include current contact information for individuals and agencies identified in the plan and be implemented for the currently proposed project as recommended in PCI's 2011 report; and
- pursuant to Washington state guidance recommends that appropriate representatives of the Native American community be contacted and informed of the currently proposed project.

In summary, Natural Investigations review of PCI's 2011 report determined that previous investigations and PCI's investigations are adequate for Avenue 55, LLC's currently proposed development on Lot Y and implementation of the currently proposed project would not affect any historic properties as defined at 36 CFR 800 and SEPA.

## REFERENCES CITED

Sikes, Nancy E., and Cindy J. Arrington

2011 *Archaeological Survey, Testing and Monitoring at 45PI66, 45PI455 and 45PI773, DuPont Industrial Partners, LLC, Lot Y Project, City of DuPont, Pierce County, Washington*. Report prepared by Parus Consulting, Inc. for DuPont Industrial Partners, LLC.

## **APPENDIX A:**

Archaeological Survey, Testing, and Monitoring at 45PI66, 45PI455 and 45PI773, DuPont  
Industrial Partners, LLC, Lot Y Project, City of DuPont, Pierce County, Washington.  
Report prepared by Parus Consulting, Inc. 2011

# CULTURAL RESOURCES REPORT COVER SHEET

Author: N. Sikes and C. Arrington

Title of Report: Archaeological Survey, Testing, and Monitoring at 45PI66, 45PI455, and 45PI773, DuPont Industrial Partners, LLC, Lot Y Project, DuPont, Washington

Date of Report: 4-14-2011

County(ies): Pierce Section: 26 Township: 19 N Range: 01E

Quad: Nisqually (1981) Acres: 25.3

PDF of report submitted (REQUIRED)  Yes

Historic Property Export Files submitted?  Yes  No

Archaeological Site(s)/Isolate(s) Found or Amended?  Yes  No

TCP(s) found?  Yes  No

Replace a draft?  Yes  No

Satisfy a DAHP Archaeological Excavation Permit requirement?  Yes #  No

DAHP Archaeological Site #:

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- Submission of paper copy is required.
- Please submit paper copies of reports ***unbound***.
- Submission of PDFs is required.
- Please be sure that any PDF submitted to DAHP has its cover sheet, figures, graphics, appendices, attachments, correspondence, etc., compiled into one single PDF file.
- Please check that the PDF displays correctly when opened.

ARCHEOLOGICAL SURVEY, TESTING AND MONITORING AT 45PI66, 45PI455  
AND 45PI773, DUPONT INDUSTRIAL PARTNERS, LLC, LOT Y PROJECT

CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

Prepared For:

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Final – April 14, 2011

## ABSTRACT

This cultural resources investigation was conducted where DuPont Industrial Partners, LLC plans to develop a multi-building industrial park on Lot Y in the City of DuPont, Pierce County, Washington. The approximately 25.3-acre project is located on private land known as Lot Y (Assessor's Property Tax Parcel No. 0119262019) situated within the city limits west of Center Drive and north of Sequalitchew Creek. The work was conducted under an Archaeological Excavation Permit approved by the Washington State Department of Archaeology & Historic Preservation (DAHP) on February 7, 2011 (Permit No. 2010-54). The fieldwork included a pedestrian survey and examination of subsurface sediments in a series of 125 shovel test probes and 22 geotechnical exploration pits placed within Lot Y. The work was monitored by a member of the Nisqually Tribe.

No evidence was found of two previously recorded historic archaeological sites (45PI66 Methodist Episcopal Mission site and 45PI455 9th U.S. Cavalry Bivouac site) and one flaked stone isolate (45PI773), except for two brick fragments within the boundaries of 45PI66. Nor was there any evidence of two other archaeological sites (45PI63 Railroad Dump #3 site and 45PI64 Burning Ground Dump site) formerly located within Lot Y that were completely removed a decade ago during hazardous materials remediation. Two surface historic archaeological sites (45PI01224 railroad track segment and 45PI01225 concrete platform) and one isolated kerosene can were identified during the fieldwork within Lot Y, but they are not considered significant. One additional archaeological site (45PI01226 set of bridge abutments) located north of Sequalitchew Creek but immediately outside of Lot Y was also recorded. Except for two brick fragments, one flat iron bar and one can, no portable artifacts were identified; no artifacts were collected.

No significant cultural properties will be affected by the project, and no further cultural resource action is warranted at this time. Should cultural resources be discovered during project implementation, an Unanticipated Cultural Resources Discovery Plan is attached as an appendix to this report. This report will be filed with the DAHP and a copy provided to affected Tribes.

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APPENDIX B: Correspondence with Local Tribes

APPENDIX C: Detailed Subsurface Excavation Records

APPENDIX D: Site and Isolate Record Forms

APPENDIX E: Unanticipated Cultural Resources Discovery Plan

## INTRODUCTION

Parus Consulting, Inc. (PCI) was retained by DuPont Industrial Partners, LLC to provide cultural clearance in accordance with prevailing Washington state laws for the proposed Lot Y project in the City of DuPont. An Archaeological Excavation Permit (Permit) was approved by the Washington State Department of Archaeology & Historic Preservation (DAHP) on February 7, 2011 (Permit No. 2010-54) (Appendix A).

The Permit was required because two historic archaeological sites (45PI66 Methodist Episcopal Mission site and 45PI455 9th U.S. Cavalry Bivouac site) and one prehistoric isolate (45PI773) are located within the Lot Y project area (Figures 1 and 2). In 1993, site 45PI66 was determined eligible for listing on the National Register of Historic Places (NRHP) under Criterion A. Site 45PI455 is considered potentially eligible for NRHP listing. Both sites are considered contributing elements to a proposed Nisqually-Sequalitchew Historic District. Prior archaeological investigations of sites 45PI66 and 45PI455 in 1989 and 2000 included backhoe peels, shovel tests, and block and unit excavations. In addition, a portion of 45PI455 was monitored during a hazardous materials remediation program. No surface evidence of these two sites or the isolate remained within Lot Y.

Two additional historic sites (45PI63 Railroad Dump #3 site and 45PI64 Burning Ground Dump site) located within Lot Y were determined not eligible for NRHP listing in 1993. Both sites were completely removed during hazardous materials remediation in 2000.

The services completed by PCI under the Permit include intensive-level pedestrian survey, subsurface testing, monitoring of geotechnical exploration pits, preparation of this report summarizing the cultural resources investigation and related forms recording newly identified resources, and completion of an Unanticipated Cultural Resources Discovery Plan.

## PROJECT LOCATION AND DESCRIPTION

The project encompasses approximately 25.3 acres on private land known as Lot Y (Assessor's Property Tax Parcel No. 0119262019) located in the City of DuPont, Pierce County, Washington. Lot Y is located within the city limits west of Center Drive and north of Sequalitchew Creek. The Lot Y project area is situated within Section 26, Township 19 North, Range 01 East on the Nisqually 1981 USGS 7.5-minute topographic map (Willamette Meridian) (Figure 1).

The cultural resources excavations were conducted where the private landowner, DuPont Industrial Partners, LLC plans to develop a multi-building industrial park on Lot Y. The complex would include up to 12 buildings totaling approximately 340,000 square feet of building area, roadways, loading areas, approximately 650 parking spaces, and installation of underground utilities. Plans also include construction of a trail along the creek to the southwest of the industrial park.

Plans for public access along the creekside trail to be constructed to the south of the industrial park include erection of an interpretive sign explaining the history of the temporary encampment within Lot Y of the 9th U.S. Cavalry Buffalo Soldiers. The content of the sign will include reference to the war games enacted by the large contingent of Buffalo Soldiers from Fort Walla Walla in 1904, and the discovery of the stables area at 45PI455, the 9th U.S. Cavalry Bivouac site along Sequalitchew Creek.

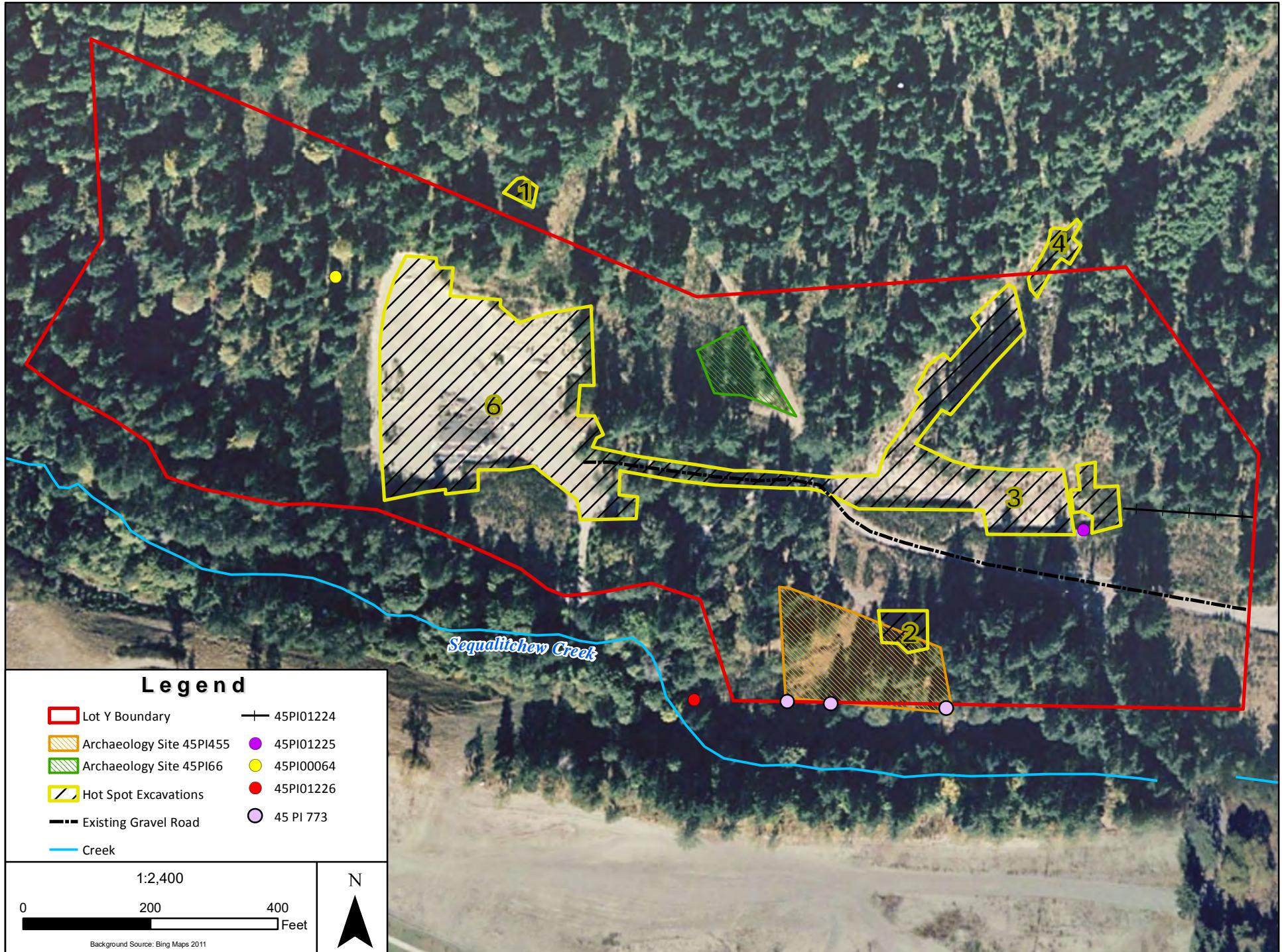
In addition, the existing historical marker erected by the DuPont Company in 1927 at the site of the former Methodist Episcopal Mission (45PI66) will be retained on the property. The marker will be moved to the trailhead area where the public will have continued access to read about the history of the Mission, the first religious institution on Puget Sound, established in 1840.



Quad Name: Nisqually PR 1981

T19N, R 1E, Section 26

DuPont Lot Y: Location Map



## REGULATORY SETTING

The Permit was completed pursuant to permit requirements found in the Washington Administrative Code (WAC) 25-48-060. There is no federal involvement in this project. The cultural resources investigation for the proposed project was conducted under prevailing Washington state laws, which serve to protect from known disturbance archaeological sites and Native American graves on both public and private lands. These laws include Executive Order 05-05, Indian Graves and Records (Revised Code of Washington [RCW] 27.44), Archaeological Sites and Resources (RCW 27.53), Archaeological Excavation and Removal Permit (WAC 25-48), and Discovery of Human Remains (RCW 27.44).

## PROJECT SETTING

### ENVIRONMENTAL SETTING AND DEPOSITIONAL CONTEXT

The project area is situated within the Puget Trough physiographic province (Franklin and Dyrness 1973) approximately 0.8 mile east of the southern part of Puget Sound shoreline and north of Sequalitchew Creek. Sequalitchew Creek drains the Edmond's Marsh area about 0.3 mile southeast of the project, and empties into Puget Sound approximately 1.5 miles northwest of the marsh. The Puget Trough is a basin that lies between the Coast Range to the west and the Cascade Range to the east.

The geomorphology of the project area is largely the result of Pleistocene glaciations. The last advance of a continental glacier through the Puget Trough began approximately 20,000 years ago when the Cordilleran Ice Sheet moved south from British Columbia. By 15,000 years ago, the Puget Lobe of this ice sheet extended some 19 miles south of the present city of Olympia (Orr and Orr 1996). Similar to other southern Puget Sound lowlands, glacial outwash deposits comprise the area in and around the project region.

Over time, soils forms on the glacial outwash sediments, with the addition of wind-blown volcanic ash. Within the project area are the deep, somewhat excessively drained Spanaway gravelly sandy loam soils (41A), which formed on the gravelly outwash deposits on terraces and plains (Soil Survey Staff 2009). A typical soil profile for this series is an A horizon of gravelly sandy loam (0-14 inches), a B horizon of very gravelly sandy loam (14-18 inches), above a C horizon of extremely gravelly sand (18-60 inches), with the cobble content increasing down profile.

Puget Sound and the Cascade Range, west and east of the project, influence the regional climate. Characteristic climatic conditions for this region include wet, mild winters and warm, dry summers, with the majority of annual precipitation falling as rain between October and March (Franklin and Dyrness 1988). Native vegetation found throughout much of the Puget Trough province is the *Tsuga heterophylla* (western hemlock) forest (Franklin and Dyrness 1973:16-17, 88). In addition to western hemlock, forest trees include Douglas fir (*Pseudotsuga menziesii*), cedar (*Thuja plicata*), and alder (*Alnus rubra*), along with other species in valley bottoms or forest margins and a variety of understory plants, ferns, and mosses. Prairie and marsh vegetation was historically recorded in the project vicinity near Sequalitchew Creek and Edmond's Marsh.

The saltwater and freshwater resources of the Puget Sound, its bays and inlets attracted exploitation and settlement prior to historic logging and development of this rich, ecologically diverse region. Among the wildlife once common to the region are black bear, bobcat, cougar, deer, elk, raccoon, red fox, and snowshoe hare, as well as a variety of waterfowl, fish, and shellfish.

## CULTURAL SETTING

### Prehistoric Overview

Occupation in western Washington during the prehistoric period is estimated to have occurred as early as 12,000 years ago (Ames and Maschner 1999). Prehistoric material culture in western Washington has been categorized according to “horizons” or “periods” that define technological, economic, social and ideological elements (Ames and Maschner 1999). During the Paleoindian Period (dating to 12,500 BP and earlier), people are thought to have been highly mobile hunter-gatherers whose toolkit included fluted Clovis projectile points.

The Archaic or Early Period (12,500–5,000 BP) saw an increase in sedentism reflected in more kinds of stone tool types and evidence of permanent villages. Within the Puget Sound and Strait of Juan de Fuca, artifacts from this period are referred to as “Olcott” after the type site in Snohomish County (Nelson 1990). Increasing populations, an increase in reliance on marine resources, and more complex socio-economic organization, as well as the appearance of ground stone and bone tools in the archaeological record, characterizes the Middle Period (5,000–2,500 BP) in the Puget Sound (Ames and Maschner 1999; Matson and Coupland 1995). During the last 2,500 years, the Late Period is characterized by the development of craft specialization and social stratification, establishment of permanent winter villages, and an increased reliance on marine resources.

### Ethnographic Overview

The project area is located in the traditional territory of the Puyallup Tribe who spoke the Puyallup Nisqually language of the Southern Coastal Salish language family. Their territory encompassed the Puyallup River drainage from Mount Rainier to Commencement Bay, and the uplands east of the Tacoma Narrows (Suttles and Lane 1990). Ethnographies indicate that the Puyallup relied on salmon as a dietary staple and secured additional natural resources from the surrounding saltwater, riverine and upland environmental settings. Their multi-family, plank-house villages were occupied during the winter months and typically situated adjacent to waterways. Smaller, seasonal camps were associated with hunting and gathering a variety of resources, including deer, elk, berries, and roots.

Ethnographic data indicate the Nisqually inhabited the area along the upper part of Sequalitchew Creek (Wessen et al. 2005, 2008). Sequalitchew Village was located at the mouth of the creek and described by the ethnographer as “where Dupont Creek enters the Sequalitcu River” (Smith 1940:8, 13). The village inhabitants would have pursued fishing, hunting and gathering from this winter village and from seasonal camps during the remainder of the year.

As part of the Medicine Creek Treaty of 1854, the Puyallup received a 1,280-acre tract extending along the high bluff from Commencement Bay to Point Defiance. By 1873, the reservation lands had been enlarged to 18,062 acres, and included lands on the southern and eastern side of Commencement Bay (Harmon 1995; Ruby and Brown 1986). Congress later established a commission to authorize sale of tracts with the Puyallup reservation, and by 1895 nearly half the acreage had been sold, including the waterfront properties.

### Historic Overview

Euro-American history began in western Washington with the coming of explorers as early as the 16th century. In 1792, the expedition by British explorer George Vancouver first encountered Twana and other Southern Coast Salish when sailing up Hood Canal and Puget Sound. U.S. Navy Lt. Charles Wilkes explored Hood Canal in 1841, and named Suquamish Harbor (later Squamish Harbor) as well as Pit Passage (now Pitt Passage). By 1846, the United States owned what is now western Washington as the U.S.–British boundary was moved north to the 49th parallel. American settlers poured into the area that

was then known as the Oregon Territory, established in 1848, and the Donation Land Claim Act was passed in 1850. The arrival of the first transcontinental railroad in the 1880s served to fuel settlement and economic development.

In the project vicinity, the Hudson's Bay Company (HBC) established a small storehouse for their fur trade near the mouth of Sequalitchew Creek as early as 1832 (Carpenter 1986). The following year they erected a small fort immediately east, and 10 years later in 1843, a much larger fort complex was established approximately 0.75 miles farther east (known as Fort Nisqually). To meet the demands for export of agricultural and dairy products, the company had established the Puget's Sound Agricultural Company (PSAC) by 1838. The 1843 fort was constructed near the buildings and structures comprising this enterprise. Although the treaty with Great Britain had required the removal of the HBC from United States territory, HBC/PSAC traders, farmers and dairymen continued to occupy the 1843 Fort Nisqually complex, to raise crops and to produce dairy products until compensation was received from the U.S. government in 1869. The lands were then titled to the last clerk of the company, Edward Huggins.

During the years between the departure of HBC/PSAC in 1869 and the development of the DuPont Powder Works in 1906, the area was populated by American settlers. The homesteaders used the land for farming and livestock grazing. In 1904, the 9th U.S. Cavalry camped, stabled their horses, and conducted war games near and within the project area on the prairies between Sequalitchew and Steilacoom Creeks (see Moura 1991a:8-9). The troops camped within the project area along Sequalitchew Creek were designated the Second Brigade, Camp Nisqually. Under the command of Colonel Charles H. Noble, the camp contained about 2,000 soldiers from Fort Walla Walla. The 9<sup>th</sup> U.S. Cavalry troops were African-American, referred to as Buffalo Soldiers.

Two years later, the DuPont Powder Works was established on the land by the E.I. DuPont de Nemours Company (Munyan 1972). In addition to an explosives manufacturing plant, the DuPont facilities included a company town, docks along the Puget Sound shoreline, and a narrow-gauge railroad used to transport their products. The "Old Town" period represents the time of the construction and early operation of the DuPont Powder Works (1906 into the early 1920s). During this period, buildings were frequently constructed and demolished. The construction of roads and the railway network, the annual clearing and burning of underbrush, as well as relatively frequent explosions, resulted in extensive land disturbance.

When DuPont Powder Works closed in 1976, it was purchased by the Weyerhaeuser Company. Many of the production buildings were burned prior to release of the property to Weyerhaeuser to prevent detonation of undetected explosives. During the last 20 years, Quadrant Corporation (formerly Weyerhaeuser Real Estate Company) has developed the planned community known as Northwest Landing in the project vicinity.

Photograph 1 shows the narrow-gauge railroad built by the DuPont Powder Works above the south side of Sequalitchew Creek (outside and south of Lot Y). The train is moving the last load of black powder that had been manufactured by the plant and subsequently stored in a warehouse rented by the city. This last powder run occurred circa 1990 (personal communication, Fred Foreman).



**Photograph 1. Last powder run on narrow-gauge (south side of Sequalitchew Creek)**

## **PREVIOUS ARCHAEOLOGICAL RESEARCH**

### **RESEARCH METHODS**

A cultural resources search was performed for the project on October 21, 2010 using the DAHP electronic GIS database to gather archaeological information relative to reports and sites within and in the vicinity of the project area. This information was supplemented with archival research into the history of this region and of archaeological investigations in the immediate project vicinity. This assessment considered previous studies, the magnitude and nature of the undertaking, the nature and extent of potential effects on historic properties, and the likely nature and location of currently unknown archaeological resources within the project area.

During the fieldwork program between February 17 and March 4, 2011, PCI archaeologist Cindy Arrington conducted additional archival and oral history research. Archival research at the City of DuPont History Museum included discussions with Museum Director Johanna Jones on the area's history and review of numerous documents and photographs. A map of the DuPont Works drawn by E. Davies and dated March 15, 1955 shows the "Burning Ground" within the Lot Y project area and the system of roads and narrow-gauge and standard-gauge railroad tracks crisscrossing within the plant boundaries. The map also shows two bridges on Sequalitchew Creek immediately south of the project area, which were used by the company's narrow- and standard-gauge railroads. A digital version of this map was provided by Fred Foreman, a lifetime resident of the City of DuPont and a former part-time, summer DuPont Powder Works employee. Mr. Foreman gladly conveyed his enthusiasm and knowledge of the history of this region, and spent time with Ms. Arrington. In addition to the Davies map, Mr. Foreman also provided DVDs of archaeological investigations in 1989 of 1833 Fort Nisqually and of an informal visit to the Methodist Episcopal Mission site (45PI66) during removal of contaminated soil at nearby site 45PI64 (Burning Ground Dump site). Along with photographs obtained from DAHP of the hot spot archaeological monitoring program carried out a decade ago by Daugherty and Condon (2000), the video of hazardous waste removal provided a clearer picture of the landscape within Lot Y prior to re-shaping by heavy mechanical equipment while removing contaminated topsoil.

### **LOCAL ARCHAEOLOGICAL INVESTIGATIONS**

The project vicinity is part of a complex cultural landscape with cultural resources dating from occupation of the area by Native Americans to historic period settlement—beginning in 1832 by the HBC with related agricultural activities started by the PSAC by 1838, and continuing through 70 years of industrial Archeological Survey, Testing & Monitoring at 45PI66, 45PI455 and 45PI773, Lot Y Project, DuPont Pierce County

*Parus Consulting, Inc.*  
April 14, 2011  
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development by the DuPont Company between 1906 and 1976. The following discussion focuses on studies within the former DuPont Powder Works property, which was acquired in 1976 by the Weyerhaeuser Company from E.I. DuPont de Nemours Company. As indicated in Table 1, several of these prior archaeological investigations have included all or portions of the current project area.

**Table 1. Prior Cultural Resources Investigations within or near Project Area**

Year	Author(s)	Report Title	Proximity to project
1977	Onat, A.R., Lee A. Bennett, and Timothy Riordan	Cultural Resources Survey: DuPont Site, Volume I, Survey of Archaeological and Ethnographical Resources at the DuPont Site	Within and near Lot Y
1977	Stratton, David H., and Glen W Lindeman	Cultural Resource Survey, DuPont Site, Volume II: Survey of Historical Resources at the DuPont Site	Within and near Lot Y
1989	Welch, Jeanne	A Cultural Overview and Comprehensive Management Plan for the DuPont Property, Pierce County, Washington	Within and near Lot Y
1990	Stilson, M. Leland	A Data Recovery Study of 45PI401, Hudson's Bay Dwellings at Northwest Landing, Pierce County, Washington	0.1 mile east
1991	Moura, Guy F.	Missions, War Games, and Railroad Dumps: 1989 Explorations and Excavations, Northwest Landing, DuPont, Washington	Within
1991	Stilson, M. Leland	A Data Recovery Study of 45PI405, the 1843 Fort Nisqually Village at Northwest Landing, Pierce County, Washington	0.1 mile east
2000	Daugherty, Richard, and Mary Condon	Archaeological Monitoring of the "Hot Spot" Removal Program, the Hazardous Waste Stockpile Areas, and Sand Stockpile Laydown Areas at the Former DuPont Works Site, DuPont, Washington	Within
2001	Daugherty, Richard, and Mary Condon	An Update on the Archaeological Status of Sites 45PI63 (A Trash Dump Located Along a Railroad Spur), 45PI64 (Burning Ground Dump), 45PI66 (Methodist Episcopal Mission), and 45PI455 (Part of the 9th Cavalry Bivouac Area)	Within and near Lot Y
2002	Maass, Alex	Interim Archaeological Monitoring Report for the Former DuPont Works Site, Parcel 1	Adjacent (to west)
2003	Maass, Alex	2002 Field Season Archaeological Monitoring Report for the Former DuPont Works Site, Parcel 1	Adjacent (to west)
2003	Wessen, Gary	Exploring the Boundary and Possible Interpretation of 45PI485	South of creek
2004	Wessen, Gary	Archaeological Testing at 45PI576, Former DuPont Works Site, City of DuPont, Pierce County, Washington	South of creek
2005	Dampf, Steven	Archaeological Monitoring Report for the 2003 and 2004 Field Seasons at the Former Dupont Works Site Parcel 1, City of DuPont, Pierce County, Washington	Adjacent (to west)
2005	Wessen, Gary, Cathy Bialas and Gail Thompson	Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near Lot Y
2006	Thompson, Gail	Archaeological Implementation Report for Remediation of Soils at the Former DuPont Works Site Parcel 1, City of DuPont, Pierce County, Washington	Adjacent (to west)
2008	Wessen, Gary, Cathy Bialas, Derek Shaw and Gail Thompson	Revised Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near Lot Y

The first intensive survey of the 3,000 acres comprising the former DuPont Powder Works property was completed over 30 years ago. A total of 26 cultural resources were identified during the survey, including 8 prehistoric and 18 historic sites (Blukis Onat et al. 1977). Blukis Onat and others (1977) studied the prehistoric and ethnohistoric sites identified within the surveyed area, while Stratton and Lindeman (1977) completed archival research on the historic period resources. The 26 sites include 1833 Fort Nisqually (45PI55), 1843 Fort Nisqually (45PI56), and the Sequalitchew Village site (45PI54). The 1833 Fort Nisqually site, located slightly more than 0.5 mile west of Lot Y, was listed on the NRHP in 1974 and is also listed in the Washington Heritage Register (WHR). Located approximately 0.2 mile southeast of Lot Y, the 1843 Fort Nisqually site (45PI56) is considered eligible for NRHP listing. The Sequalitchew

Village site, a historic property, is located at the mouth of Sequalitchew Creek approximately 1.5 miles west of Lot Y and contains remnants of a shell midden. Burials associated with the village were recorded as a separate site (45PI76), since they are located on the opposite, north side of the creek from the village.

As discussed further below, of the 26 sites recorded by Blukis Onat et al. (1977), three are located within Lot Y (45PI63 Railroad Dump #3, 45PI64 Burning Ground Dump, and 45PI66 Methodist Episcopal Mission Site). An additional 12 sites (2 prehistoric and 10 historic) of those identified during the 1977 survey are located within 0.5 mile of but outside Lot Y.

The extensive disturbance of the entire DuPont property by construction of numerous roadways and narrow-gauge railroad tracks, as well as the operations of the explosives manufacturing plant, was discussed in the report by Blukis Onat et al. (1977:57) and they recommended a more intensive survey might identify additional archaeological sites. Over ten years later, the former DuPont property was resurveyed again as part of the development of a Cultural Resources Management Plan for the Weyerhaeuser Company by Jeanne Welch (Welch 1989a). Each of the archaeological sites identified during the survey by Blukis Onat et al. (1977) was relocated, including the three within Lot Y (45PI63, 45PI64, and 45PI66). More intensive survey was accomplished in 1988 in areas planned by Weyerhaeuser for well or reservoir construction, or for logging, and the work included a testing and evaluation program developed to determine the significance of known cultural resources. Backhoes were used for sod removal in vegetated areas and for exploratory trenching.

The archaeologists also completed a testing program to identify significant cultural resources within the planned corridor for construction of Center Drive (Welch 1989a:4.2, 4.4). Center Drive trends north-south and is located 0.1 mile east of Lot Y. Two sites within the right-of-way of Center Drive on the north and south sides of Sequalitchew Creek were identified (45PI401 and 45PI405) (Welch 1989a, 1989b, 1989c). The sites are located just outside the west palisade wall of 1843 Fort Nisqually (45PI56). Each site contains the remains of HBC/PSAC dwellings, and a large number of historic as well as prehistoric artifacts were recovered from 45PI401 and 45PI405 during initial testing and subsequent data recovery excavations (Welch 1989a; Stilson 1990, 1991). The two sites are located only a short distance from Lot Y, approximately 0.1 mile to the east, and are discussed in more detail below.

Archaeological test excavations within Lot Y were conducted in 1989 by Guy Moura to identify the precise location of the buildings within the Methodist Episcopal Mission Site (45PI66), and to test the significance of Railroad Dump #3 (45PI63) (Moura 1991a; also see Daugherty and Condon 2001:Part I). He was also hired to investigate a third area within Lot Y where historic accounts indicated the 9<sup>th</sup> U.S. Cavalry had camped during military maneuvers in 1904 (later designated 45PI455) (Moura 1991a, 1991b; also see Daugherty and Condon 2001:Part I). Moura completed a series of backhoe peels, shovel test probes, and block and unit excavations within and near the boundaries of 45PI63, 45PI66, and 45PI455.

Under a Consent Decree signed in 1991 by the Washington State Department of Ecology, E.I. DuPont de Nemours Company and Weyerhaeuser Company, DuPont and Weyerhaeuser were jointly responsible for cleaning up an 841-acre tract, which had been contaminated by the former industrial explosives manufacturing facility (Thompson 2006:4). Archaeological monitoring of soil remediation activities and related archaeological investigations were carried out between 2001 and 2004. Detailed information on the monitoring is contained in reports by Alex Maass (2002, 2003) and Steven Dampf (2005). A large prehistoric chipped stone scatter (45PI576) was identified south of Sequalitchew Creek and south of Lot Y (Thompson 2006:21, 32). Two small projectile points suggest the site was occupied during the past 2,000 years, although the overall assemblage indicates there may be an older component. Because of the low density of artifacts recovered from testing in a highly disturbed setting, the site was recommended ineligible for NRHP listing. Two prehistoric isolates were also recorded south of the creek and

approximately 50 meters east of 45PI576. HRA 30a-d included one core, one flake, and two edge-modified flakes; HRA 31a-d included four basalt flakes (Thompson 2006:22).

Lot Y was included within the acreage under the Consent Decree requiring remediation of hazardous materials (mainly lead and arsenic contaminated soil) contained within the former DuPont property, and additional archaeological investigations revolved around remedial activities. The removal of contaminated soil in “hot spot” areas within Lot Y was monitored by archaeologists in 1999 and 2000, and included segments of the narrow gauge railroad tracks, Railroad Dump #3 (45PI63), the Burning Ground Dump site (45PI64), and a portion of the 9<sup>th</sup> U.S. Cavalry Bivouac site (45PI455) (Daugherty and Condon 2000:7) (Figure 2). After clearing and grubbing, excavation of the hot spots generally achieved a depth of 46 centimeters below surface (cmbs) (18 inches). The area around removal of a designated hot spot was expanded by 25 feet in each cardinal direction so the initial excavation area around a hot spot measured at least 50x50 feet.

During remediation activities, a historic debris deposit associated with the 1843 Fort Nisqually complex was identified to the south of Sequalitchew Creek. Southeast of Lot Y and near the two previously recorded HBS/PSAC dwelling sites (45PI401 and 45PI405), the deposit was recorded as 45PI485 (Daugherty and Condon 2000).

A comprehensive document reporting on the subsurface testing or hot spot monitoring at the four known sites within Lot Y (45PI63, 45PI64, 45PI66, and 45PI455) was completed the following year (Daugherty and Condon 2001:Parts I and II). Part I of that document is Moura’s report on the test excavations completed in 1989 at 45PI63, 45PI66, and 45PI455 (also see Moura 1991a, 1991b). Part II of that document reproduced and updated the information at all four sites from the hot spot removal program reported by Daugherty and Condon (2000).

Beginning in 1993, Richard Daugherty evaluated the significance of a number of the archaeological sites within the former DuPont Powder Works property and prepared National Register nomination forms for them. These included the four sites within Lot Y (45PI63, 45PI64, 45PI66, and 45PI455), as well as the two HBC/PSAC dwelling sites east of Lot Y (45PI401 and 45PI405), discussed below.

In January 2005, during a survey for the proposed expansion of an existing gravel mine, the four sites (45PI63, 45PI64, 45PI66, and 45PI455) previously recorded in the project area were relocated, but no effort was made to further investigate them since each had been previously evaluated (Wessen et al. 2005:15). No potentially significant archaeological sites were newly identified during the surface survey, and it was decided to investigate the areas close to Sequalitchew Creek by subsurface testing. The subsequent recovery of four pieces of chipped stone debitage from a series of shovel test probes was recorded as a prehistoric isolate (45PI773) (Wessen et al. 2005, 2008) (Figure 2).

## PREVIOUSLY RECORDED CULTURAL RESOURCES NEAR PROJECT AREA

As noted above, 12 (2 prehistoric and 10 historic) of the 26 sites recorded by Blukis Onat et al. (1977) are located within 0.5 mile of but outside Lot Y (Table 2). As shown in the table, an additional 13 sites (2 prehistoric and 11 historic) and 5 isolates (2 prehistoric and 3 historic) have been previously recorded within 0.5 mile of but outside Lot Y. According to the records, one historic (45PI58) and one prehistoric site (45PI75) may have never existed. The three remaining pre-Contact sites include two burial sites (45PI77, 45PI404) and a chipped stone scatter (45PI576).

The previously recorded historic sites are mainly associated with the HBC/PSAC era and the Old Town period. The Old Town period represents the time of the construction and early operation of the DuPont Powder Works (1906 into the early 1920s). Eight of the historic-era sites are associated with the earlier HBC/PSAC period (1832–1869). These include 1843 Fort Nisqually (45PI56), the remains of Archeological Survey, Testing & Monitoring at 45PI66, 45PI455 and 45PI773, Lot Y Project, DuPont Pierce County

ethnohistoric men's dwelling houses (45PI74), three burial sites (45PI78, 45PI413, 45PI451), two sites with house foundations and artifacts (45PI401, 45PI405), and a debris deposit (45PI485). The artifacts from one site (45PI563) date from both the HBC/PSAC and Old Town periods.

Seven of the previously recorded sites are attributed to the DuPont Powder Works Old Town period. These include a men's boarding house (45PI57), the Old Town dump (45PI59), a domestic trash dump (45PI60), two debris deposits or scatters associated with the narrow gauge railroad that transported the explosives (45PI61, 45PI62), the munitions plant (45PI70), a remnant of a dirt road (45PI441), and a recently recorded non-functional segment of narrow-gauge railroad track and berm (45PI01224). 45PI01224 was identified during survey in 2010 of the 12.8-acre property (known as Lot X) adjacent to the eastern edge of Lot Y (Sikes and Arrington 2010). The narrow-gauge track and berm continue to the west beneath a chain-link fence into Lot Y.

One of the historic period sites is the garbage dump (45PI448) used by the city of DuPont from 1927 to 1946. The two remaining historic-era sites include one with 100 to 200-year old human skeletal fragments (45PI712) and a debris scatter with artifacts ranging in age from 1916 to the mid-1960s (45PI783).

The two prehistoric isolates identified within the 0.5 mile radius were recorded south of Sequalitchew Creek during archaeological monitoring of soil remediation activities within the Consent Decree area (Thompson 2006:22). The isolates are located approximately 50 meters east of 45PI576, a large prehistoric chipped stone scatter south of the creek and south of Lot Y. HRA 30a-d included one core, one flake, and two edge-modified flakes; HRA 31a-d included four basalt flakes.

The three historic-era isolates were identified recently during the recent survey of Lot X (Sikes and Arrington 2010). The isolates are located approximately 400 feet east of Lot Y. GEO Isolate #1 is a surface pile of 51 railroad spikes; GEO Isolate #2 is a pile of broken, formed aggregate concrete chunks; and GEO Isolate #3 is a scatter of milled lumber.

Of the previously recorded sites within the 0.5 mile radius outside Lot Y, three are considered eligible for NRHP listing: the 1843 Fort Nisqually site (45PI56) and the two HBC/PSAC dwelling sites (45PI401, 45PI405). The latter two sites are also considered contributing elements to the proposed Nisqually-Sequalitchew Historic District (Point Nisqually Defense Fund 2003) (see discussion below).

Outside the 0.5 mile radius, nearby historic properties include 1833 Fort Nisqually (45PI55), the Sequalitchew Village Site (45PI54), the DuPont Village Historic District, and Fort Lewis. Throughout its period of significance (1917–1948), Fort Lewis was one of the preeminent U.S. Army training posts. The DuPont Village Historic District encompasses the 43-acre company town developed by E.I. DuPont de Nemours Company between 1906 and 1915. The district is located less than 1 mile southeast of Lot Y.

**Table 2. Previously Recorded Resources within 0.5 Mile of Project Area**

Site No.	Brief Description	Historic Period	Recorded by and year	NRHP Eligibility
45PI00056	Historic 1843 Fort Nisqually (1832-1869)	HBC/PSAC	Riordan 1977; Daugherty 1993 NRHP form	Eligible
45PI00057	Historic men's boarding house, DuPont era; destroyed	Old Town	Riordan 1977; Daugherty 1993 NRHP form	Not eligible
45PI00058	Site recorded as historic brick yard dump but it never existed	n/a	Riordan 1977; Daugherty 1993 NRHP form	Not eligible
45PI00059	Historic Old Town dump, 1906-1909	Old Town	Riordan 1977; Daugherty 1993 NRHP form	Not eligible

Site No.	Brief Description	Historic Period	Recorded by and year	NRHP Eligibility
45PI00060	Historic domestic trash dump, DuPont Powder Works, 1906-1909	Old Town	Riordan 1977; Daugherty 1993 NRHP form	Not eligible
45PI00061	Historic railroad or domestic debris deposit	Old Town	Riordan 1977; Daugherty 1993 NRHP form	Not eligible
45PI00062	Historic railroad debris deposit, ca. 1906-1909	Old Town	Riordan 1977; Daugherty 1993 NRHP form	Not eligible
45PI00070	Historic DuPont munitions plant, ca. 1906	Old Town	Riordan 1977	Not determined
45PI00074	Ethnographic men's dwelling houses, 1844-1869, Fort Nisqually	HBC/PSAC	Blukis Onat 1977; Daugherty 1992; Daugherty 1993 NRHP form	Not determined
45PI00075	Site recorded as a prehistoric midden at DuPont crystallizer but it never existed	n/a	Blukis Onat 1977; Daugherty 1993 NRHP form	Not eligible
45PI00077	Old Fort Lake Graves	Pre-Contact	Blukis Onat 1977	Not determined
45PI00078	Historic 1843 Fort Nisqually burial	HBC/PSAC	Blukis Onat 1977	Not determined
45PI00401	Historic Hudson's Bay house; historic and prehistoric artifacts; ca. 1845-1869	HBC/PSAC	Welch 1988; Daugherty 1993 NRHP form	Eligible, included in proposed Nisqually-Seqalitcnew Historic District
45PI00404	Pre-Contact Nisqually Indian Burial Site	Pre-Contact	Welch 1988; Daugherty and Wessen 1988	Not determined
45PI00405	Historic Hudson's Bay house foundations, historic and prehistoric artifacts, ca. 1845-1869	HBC/PSAC	Welch 1988; Daugherty 1993 NRHP form	Eligible, included in proposed Nisqually-Seqalitcnew Historic District
45PI00413	Historic Native American cemetery, 1840-1870	HBC/PSAC	Daugherty 1991	Not determined
45PI00441	Historic dirt road remnant, 1846	Old Town	Solimano 1996	Recommended not eligible
45PI00448	Historic City of DuPont garbage dump, 1927-1946	DuPont	Daugherty 1996; Daugherty 1996 NRHP form	Not eligible
45PI00451	Historic Lone Fir grave site, 1850	HBC/PSAC	Daugherty 1997	Not determined
45PI00485	Historic debris deposit, ca. 1840-1870	HBC/PSAC	Daugherty 2000; Wessen 2002	Not determined
45PI00563	Historic debris scatter, 1843-1930s	HBC/PSAC and Old Town	Chesmore 2001, 2002; Wilson 2002 NRHP form	Not eligible
45PI00576	Prehistoric chipped stone scatter	prehistoric	Wessen 2004	Recommended not eligible
45PI00712	Human skeletal fragments, ca. 100-200 yrs old		Wessen 2003	Not determined
45PI00783	Historic debris scatter, 1916-1964		McKillip 2007	Not eligible
45PI1224	Historic railroad track and berm, 1906-1920s	Old Town	Arrington 2010	Not eligible
GEO Isolate #1	Historic isolate (railroad spikes)		Arrington 2010	Not eligible
GEO Isolate #2	Historic isolate (concrete chunks)		Arrington 2010	Not eligible

Site No.	Brief Description	Historic Period	Recorded by and year	NRHP Eligibility
GEO Isolate #3	Historic isolate (milled lumber)		Arrington 2010	Not eligible
HRA 30a-d	Prehistoric isolate (core, 3 flakes)		Thompson 2006	Not eligible
HRA 31a-d	Prehistoric isolate (4 flakes)		Thompson 2006	Not eligible

### PREVIOUSLY RECORDED SITES AND ISOLATE WITHIN PROJECT AREA

One prehistoric isolate (45PI773) and four historic archaeological sites (45PI63 Railroad Dump #3, 45PI64 Burning Ground Dump, 45PI66 Methodist Episcopal Mission Site, and 45PI455 9th U.S. Cavalry Bivouac site) have been previously recorded within the project area (Table 3; Figure 2). One of the historic sites (45PI66) is associated with the HBC/PSAC era (1832-1869) and one (45PI63) with the Old Town period (1906–early 1920s). Site 45PI64 is associated with later operation of the explosives manufacturing plant from the 1930s until the plant closed in 1945. Temporary occupation by the 9th U.S. Cavalry (45PI455) occurred in 1904 between the HBC/PSAC and Old Town periods.

Site 45PI66 has been determined eligible for listing on the NRHP, and site 45PI455 is potentially eligible. These two sites are also encompassed within the proposed Nisqually-Sequalitchew Historic District as contributing elements. The district is still pending approval.

Of the four previously recorded sites within Lot Y, two (45PI63 Railroad Dump #3 site and 45PI64 Burning Ground Dump site) had been determined not eligible for NRHP listing and were completely removed during hazardous materials remediation in 1999 and 2000 (Daugherty and Condon 2000, 2001). These former sites were located within two of the cleared hot spots (HS-4 and HS-6) shown on Figure 2.

Although not located within Lot Y, this section and Table 3 include discussion of two additional sites that contain artifacts or features representing former HBC/PSAC dwellings associated with 1843 Fort Nisqually. The two sites, 45PI401 and 45PI405, are located on the north and south banks of Sequalitchew Creek approximately 0.1 mile east of Lot Y. The sites also contain a large number of chipped stone artifacts.

The history of archaeological investigations at each of these resources within and near Lot Y is presented below.

**Table 3. Previously Recorded Cultural Resources within and near Project Area**

Site No.	Brief Description	Historic Period	Recorded by and year	Prior Reports	NRHP Eligibility
<b><i>Sites and Isolate Recorded within Project Area</i></b>					
45PI00063	Historic debris deposit, two loci along railroad, 1910-1930; removed during soil remediation	Old Town	Riordan, 1977; Daugherty, 1993 NRHP form	Blukis Onat et al., 1977; Welch, 1989a; Moura, 1991a; Daugherty and Condon, 2001	Not eligible
45PI00064	Historic DuPont Powder Works burning ground dump, 1930s-1945; removed during soil remediation	DuPont	Riordan, 1977; Daugherty, 1993 NRHP form	Blukis Onat et al., 1977; Welch, 1989a; Daugherty and Condon, 2000, 2001	Not eligible

Site No.	Brief Description	Historic Period	Recorded by and year	Prior Reports	NRHP Eligibility
45PI00066	Historic 1840-1842 Methodist Episcopal Mission	HBC/PSAC	Riordan, 1977; Daugherty, 1993 NRHP form	Blukis Onat et al. , 1977; Welch, 1989a; Moura, 1991a; Daugherty and Condon, 2000, 2001	Eligible, included in proposed Nisqually- Sequalitchew Historic District
45PI00455	Historic 9th U.S. Cavalry Bivouac, Camp Nisqually, 1904; partially removed during soil remediation	Between HBC/PSAC and DuPont	Daugherty, 1997; Daugherty, 1997 NRHP form	Moura, 1991a, 1991b; Daugherty and Condon, 2000, 2001	Potentially eligible, included in proposed Nisqually- Sequalitchew Historic District
45PI00773	Prehistoric chipped stone isolate	n/a	Wessen, 2005	Wessen et al., 2005, 2008	Not eligible
<i>Sites Recorded near Project Area</i>					
45PI00401	Historic Hudson's Bay house; historic and prehistoric artifacts; ca. 1845-1869; destroyed during bridge construction	HBC/PSAC	Welch, 1988; Daugherty, 1993 NRHP form	Welch, 1989a; Stilson, 1990	Eligible, included in proposed Nisqually- Sequalitchew Historic District
45PI00405	Historic Hudson's Bay house foundations, historic and prehistoric artifacts, ca. 1845-1869; destroyed during road partially construction	HBC/PSAC	Welch, 1988; Daugherty, 1993 NRHP form	Welch, 1989a; Stilson, 1991	Eligible, included in proposed Nisqually- Sequalitchew Historic District

### 45PI63 Railroad Dump Site

This site was initially recorded by Timothy Riordan as Railroad Dump #3 during the survey of the former DuPont Powder Works property by Blukis Onat et al. (1977). The dump is located at the junction of two narrow-gauge railroad tracks from the DuPont Powder Works Old Town period. Recorded in two distinct loci (A and B, each of which was approximately 10 meters in diameter), a dirt road developed after the track was abandoned may have split the debris deposit.

Material from the site mainly dates between 1910 and 1930 (the Old Town period) and includes mainly domestic ceramic and glass fragments, with a few nails and fabric remnants (Daugherty and Condon 2001; Moura 1991a; Daugherty 1993a). Over 260 artifacts were collected in 1989, mainly from the ground surface along the tracks, with only a single 1x1 meter test unit excavated in Area B (Moura 1991a:13-17). Additional artifacts were recovered during subsequent soil remediation activities in loci A and B (Daugherty and Condon 2001:32-46). The recovery of mainly domestic items led Daugherty and Condon (2001:46) to conclude that occupants of Old Town had used 45PI63 as a dump.

In 1993, the State Historic Preservation Officer (SHPO) determined site 45PI63 ineligible for NRHP listing (see October 19, 1993 memorandum and NRHP Determination of Eligibility Form). The site has been extensively looted (Welch 1989a:4.20; Thompson 2006:27), and prior to soil remediation, there had been extensive damage to the site by logging and railroad construction. No treatment measures were required during soil remediation, which removed the entire site (Daugherty and Condon 2001:46). Prior to removal, 45PI63 was located in the area on Figure 2 marked as HS-4.

### 45PI64 Burning Ground Dump Site

This site was initially recorded by Timothy Riordan during the survey of the former DuPont Powder Works property by Blukis Onat et al. (1977). At the location of a former black powder manufacture and storage building, site 45PI64 was used as a dump where hazardous and non-hazardous waste from the manufacturing plants at the DuPont Powder Works was discarded and burned. The site was used as a burning ground dump from the 1930s until the black powder mill was closed in 1945. The “Burning

Ground" is clearly shown on the 1955 map of the DuPont Works drawn by E. Davies. Prior to turning the property over to Weyerhaeuser, DuPont systematically dynamited this site to prevent detonation of undetected explosives (Thompson 2006:30).

Due to contamination by hazardous waste, archaeological work within site 45PI64 was not permitted. In 1993, the SHPO determined the site ineligible for NRHP listing (see October 19, 1993 memorandum and NRHP Determination of Eligibility Form). Archaeological monitoring during a program to remove "hot spots" or contaminated soils was conducted at the site in 2000 (Daugherty and Condon 2000), and the entire area (approximately 3,000 square feet) was removed during the subsequent hot-spot treatment program (Daugherty and Condon 2001:47, 50). Prior to removal, 45PI64 was located in the large cleared area marked as HS-6 on Figure 2.

Although former site 45PI64 was near the historical marker for the Methodist Episcopal Mission (45PI66), no evidence of the Mission building or stockade or of prehistoric or historic cultural materials were identified during hot spot removal, with the exception of contaminated, broken tools and hardware from the DuPont operation.

### **45PI66 Methodist Episcopal Mission Site**

Initially recorded during the survey by Blukis Onat et al. (1977), this site has been determined eligible for NRHP listing under Criterion A (association with significant events) (NRHP Determination of Eligibility Form dated September 29, 1993). The site is not considered eligible under Criterion D (data potential) because it has been extensively disturbed by road and railroad construction and there has been little recovery of archaeological material during testing. Site 45PI66 also contributes to the proposed Nisqually-Sequalitchew Historic District (see below).

The Methodist-Episcopal Mission and associated school were founded in 1834 on land provided by the HBC. The goal was to convert and educate the Native Americans camping at Fort Nisqually (Carpenter 1986:98-99). Construction of the Mission buildings began in 1839 and a missionary group began services the following year. Several outbuildings and a garden were contained within the Mission grounds, which were surrounded by a stockade and located approximately 0.5 mile from the fort. The Mission building measured 18 feet wide by 32 feet long and 9 feet high, and an addition was constructed on the west side. The Mission was not successful, was abandoned in 1842, and later destroyed by fire. The land was also used for agriculture and in 1904 it was temporarily occupied by the military on training maneuvers. In 1927, the DuPont Company erected a historical marker at the site of the former Mission—the first religious institution on Puget Sound (Photographs 2 and 3).

Archaeological investigations (backhoe peels, shovel tests, 1x2 meter units) around the historical marker were conducted in 1989 (Welch 1989a; Moura 1991a). Some 29 backhoe peels were made in the area surrounding the bronze marker, but no evidence of the former Mission building was uncovered and additional testing was recommended (Welch 1989a:4.1, 4.22). Moura's team recovered chimney stones, 2 square nails, 3 window glass and 9 bottle glass fragments, and a couple pieces of ceramic (Moura 1991a:6-8). Excavation efforts (55 shovel tests and four 1x2 meter units) were stopped by 25 cmbs (0.8 feet) when sterile gravels were encountered, similar to other sites in this vicinity.

Moura (1991a:8) considered the accumulated evidence supported his contention that the Methodist-Episcopal Mission had been found. He also noted that the ashy matrix with brick, bone, and charcoal flecks in the excavation units above 25 cmbs (0.8 feet) at 45PI66 mimics that identified at the nearby HBC/PSAC dwellings site (45PI405) as hearth and chimney remnants, as discussed in the data recovery report on that site by Stilson (1991). Site 45PI405 is associated with the 1843 Fort Nisqually.



**Photograph 2. Marker at Methodist-Episcopal Mission Site (45PI66)**



**Photograph 3. Text of 1927 marker erected by the DuPont Company (plan view)**

Eleven years later, contrary to expectations, no evidence of the Mission building or stockade was identified during archaeological monitoring of contaminated soil removal at nearby site 45PI64 (Burning Ground Dump site) (Daugherty and Condon 2000; Daugherty and Condon 2001:47-48). Although chimney stones were identified at 45PI66 during the testing by Moura in 1989, archaeologists have debated about whether the stones and other artifacts identify the exact location of the Mission building. Daugherty and Condon (2001:48), for example, believe Moura's results are equivocal, although they do state "there appears to be little question that the actual location of the Mission is within a few hundred yards or so of the monument" erected by the DuPont Company.

#### **45PI455 9th U.S. Cavalry Bivouac Site**

Historic records indicate about 2,000 men were bivouacked at "Camp Nisqually" for a few months in 1904. The 9<sup>th</sup> U.S. Cavalry (also known as Buffalo Soldiers) practiced mock battles at the edge of the prairie north of Sequalitchew Creek. After the mock battles ended, the camp and surrounding area were cleared and the refuse burned before the troops departed for return to Fort Walla Walla.

Archaeological investigations (backhoe peels, block and unit excavations) within a 120 square meter area conducted by Moura in 1989 recovered over 800 artifacts and 170 small, burned animal bone fragments (deer, sheep/goat food remains) below the surface (Moura 1991a, 1991b). The artifacts include horseshoes, horseshoe nails, horse teeth, harness tackle, square and wire nails, burned bone fragments, a 1901 dime, and a 1903 rifle cartridge, all associated with the cavalry encampment. Liquor bottles and shotgun shells date to late 19<sup>th</sup> century use of the area, while prehistoric occupation is evidenced by chipped stone tools (2 knives) and debitage (5 flakes) made from a variety of toolstone (petrified wood, chert, and basalt). Two railroad spikes date to after the DuPont Powder Works was established in 1906. Similar to other sites in this vicinity, sterile gravels were encountered within 30 cmbs (1 foot) (Moura 1991a:9, 1991b:1). There was no surface evidence of the site.

A site number (45PI455) was assigned to the 9<sup>th</sup> U.S. Cavalry Bivouac area following the test excavations completed by Moura in 1989. The site measures approximately 225 by 100 meters (738 by 328 feet), and historic documentation indicates the artifact assemblage represents the temporary stable area (Moura 1991a:12, 1991b:5). In 1998, State Archaeologist Robert Whitlam indicated this site is potentially eligible for NRHP listing and recommended further work to define the boundaries of the Native American and Buffalo Soldier occupations (letter to Richard Daugherty dated February 17, 1998). Site 45PI455 is also

considered potentially eligible for NRHP inclusion as part of the proposed Nisqually-Sequalitchew Historic District (see below).

Additional work at site 45PI455 during archaeological monitoring of contaminated soil removal uncovered no further evidence of this brief occupation by the Buffalo Soldiers (Daugherty and Condon 2000, 2001). Although the bivouac area was encompassed within the targeted hot spots (HS-2 on Figure 2), the remediation program did not include the “stable” area excavated by Moura in 1989 (Moura 1991a, 1991b).

### **45PI773 Prehistoric Chipped Stone Isolate**

This chipped stone isolate was recorded in 2005 by Gary Wessen during survey and excavation of subsurface shovel test probes along Sequalitchew Creek for the proposed expansion of an existing gravel mine (Wessen et al. 2005, 2008). The isolate consists of a total of four pieces of debitage (one complete secondary flake and three flake fragments) manufactured from basalt or dacite. The material was encountered within an approximately 40 x 30 meter area, with one artifact close to the surface in a previously disturbed, very dark brown gravelly sandy loam. The remaining three artifacts were recovered potentially in situ between 30 and 50 cmbs (1-1.6 feet) in a dark yellowish brown gravelly sandy loam.

The archaeologists had placed a series of 31 shovel test probes in this area, 26 of which were arranged at 10-meter intervals along a single east-west trending line located approximately 5 meters north of the northern edge of the creek (Wessen et al. 2008:29). The four pieces of chipped stone were recovered from a section of the test line that was approximately 40 meters long. Of the five probes in the section, four contained a flake or flake fragment. None of the four probes contained more than one artifact. Five additional shovel test probes were excavated in three lines extending northward away from the creek, but no artifacts were recovered. Each probe measured approximately 30 to 38 cm in diameter.

The soil profile in the vicinity of the chipped stone isolate is described as having three strata (Wessen et al. 2008:30). The upper stratum is a very dark brown (10YR 2/2) gravelly sandy loam ranging in thickness from 8 to 25 cm. Next is a dark yellowish brown (10YR 3/4) gravelly sandy loam with a thickness of 40 to 50 cm, followed by a dark yellowish brown gravelly sand with cobbles. Small charcoal fragments were recovered from the two sandy loam horizons. In addition to one piece of debitage, the upper horizon contained a small quantity of concrete rubble, one square nail, and a mammal bone fragment, which suggested the stratum had been previously disturbed.

Isolate 45PI773 is located near site 45PI455, the 9<sup>th</sup> U.S. Cavalry Bivouac site, along the north side of the upper edge of Sequalitchew Creek. It is unknown if the four pieces of debitage recovered at 45PI773 are related to the prehistoric chipped stone artifacts (2 knives and 5 flakes) recovered during the 1989 test excavations at 45PI455 (Moura 1991a, 1991b; Wessen et al. 2008:30). Since little information on prehistoric occupation of this area can be provided by the few pieces of debitage recovered from the discontinuous subsurface probes, isolate 45PI773 was recommended ineligible for NRHP listing (Wessen et al. 2008:32).

### **Nisqually-Sequalitchew Historic District (proposed)**

Proposed by the Point Nisqually Defense Fund (2003), this historic district would cover approximately 360 acres along both sides of Sequalitchew Creek. Thirteen archaeological sites are identified in the NRHP nomination form as contributing elements. These include 45PI66 and 45PI455 within Lot Y, as well as 45PI401 near Lot Y, in the northern extent of the proposed district. The district has not yet been approved. The nomination assumes undisturbed deposits remain at the sites in sufficient quantity and diversity to address research questions related to the history of the district. It is unclear if intact remains

exist at the sites and if so, whether the deposits would contain the data required to address the research questions.

### **45PI401 HBC/PSAC Dwelling Site**

Located approximately 0.1 mile east of Lot Y, site 45PI401 was identified in 1988 on the north bank of Sequalitchew Creek during survey of the right-of-way for then-planned Center Drive (Welch 1989a:4.28). The site had been previously disturbed by DuPont Company development, including the Old Town complex and railroad, and cattle grazing. Data recovery investigations at the site ensued and 5,000 historic and 100 prehistoric artifacts, foundation remains, a shell concentration, and fire pits were identified (Stilson 1990, 1991; Daugherty 1993b). The lithic assemblage includes 10 projectile points, 6 utilized flakes, 1 scraper, 1 ground stone adze blade, and 82 modified or non-utilized flakes (Stilson 1990:47). The investigation covered 450 square feet and included shovel test probes, backhoe peels and trenches, 1x2 meter units, and 1x1 meter units. There was a rapid decrease in the frequency of artifacts as the distance of the shovel test probes, which extended 30 meters to the west, increased away from the site.

Site 45PI401 is the location of former HBC/PSAC dwellings associated with 1843 Fort Nisqually (45PI56). The site is located just outside the west palisade wall of the fort. The two dwellings date from the 1840s to 1850s, and may have been that of a dairyman and of a Nisqually tribal member who was in charge of the dairy after ca. 1850 (Stilson 1990:121). In Stilson's view (1990:119), the large number of lithic artifacts is associated with the Nisqually tribesman employed by PSAC. It is also feasible, however, that the material represents Native American occupation of the area prior to nonindigenous settlement. The site is considered eligible for NRHP inclusion and contributes to the proposed Nisqually-Sequalitchew Historic District. It was destroyed during construction of a bridge over Sequalitchew Creek.

### **45PI405 HBC/PSAC Dwelling Site**

Located approximately 0.1 mile east of Lot Y, site 45PI405 was identified in 1988 on the south bank of Sequalitchew Creek during survey of the right-of-way for Center Drive (Welch 1989a:4.28). The site was also located at the junction of two DuPont Company access roads, and had been previously disturbed by DuPont Company development, including the Old Town complex and railroad, and cattle grazing. Similar to site 45PI401, this site also contains HBC/PSAC structural remains associated with 1843 Fort Nisqually as well as over 53,000 artifacts, including Native American lithics, which were recovered during data recovery investigations (Stilson 1991; Daugherty 1993c). The area investigated totaled 2,756 square feet. The lithic assemblage includes 52 tools/tool fragments and 89 pieces of debitage. Similar to the chipped stone found at 45PI401, the lithics may have been associated with the historic period or perhaps earlier.

Site 45PI405 is located just outside the west palisade wall of 1843 Fort Nisqually (45PI56). It is considered eligible for NRHP inclusion and contributes to the proposed Nisqually-Sequalitchew Historic District. Situated within and straddling Center Drive, the majority of the site was destroyed during construction of the roadway.

## **TRIBAL CONSULTATION**

The inventory for the Permit involved correspondence with cultural representatives or Tribal Historic Preservation Officers (THPOs) for the Nisqually, Puyallup and Squaxin Tribes (see Appendix B). A phone call was received from Joe Kalama of the Nisqually Tribe expressing their desire to monitor the subsurface investigations. We contacted the Tribe again as the date for the fieldwork approached, and Kareem Gannie served as the project Native American monitor for survey and subsurface testing.

## RESEARCH DESIGN

### ARCHAEOLOGICAL EXPECTATIONS

Based on the literature review and history of this region, the project area has a high sensitivity for the presence of prehistoric and historic cultural resources. Similarly, the DAHP predictive model shows the area as “Very High Risk.” The project area is within the traditional territory of the Nisqually Tribe along Sequalitchew Creek and relatively near the village at the mouth of the creek. Chipped stone tools have been found within Lot Y (45PI773) and in close proximity to the project (45PI401, 45PI405, 45PI576), and Native American burials within a 0.5-mile radius of Lot Y (Tables 2 and 3). The project is also within an area that was settled in the early 1880s during the HBC/PSAC era, an area used in 1904 by the 9th U.S. Cavalry bivouac and war games, the Old Town period of the DuPont Powder Works and its railroad network, and the early years of today’s city of DuPont. A variety of historic period artifacts, features or deposits have been previously identified within Lot Y (45PI63, 45PI64, 45PI66, 45PI455) and in close proximity to the project (e.g., 45PI401, 45PI405), and historic period burials found within the 0.5-mile radius (Tables 2 and 3).

The project area has been extensively disturbed throughout the historic period, beginning by construction of the Methodist Episcopal Mission (45PI66) during the HBC/PSAC era and related removal of old growth trees, agricultural practices and cattle grazing, and by construction of the DuPont plant facilities and railroad network (45PI63, 45PI64). Extensive land disturbance during DuPont’s Old Town period in the early 1900s resulted from logging, land leveling, the frequent construction and demolition of buildings, road and railway network construction, annual clearing and burning of underbrush, and relatively frequent explosions. Site 45PI64 was the location of a former black powder manufacture and storage building, and the site was also used as a dump where hazardous and non-hazardous waste from the DuPont Powder Works plants was discarded and burned. In addition, many of the production buildings were burned prior to release of the property to Weyerhaeuser after the DuPont Powder Works closed in 1976.

More recently, contaminated soil remediation activities resulted in extensive damage to the landscape within the project area and included complete removal of two of the archaeological sites (45PI63 and 45PI64) and partial removal of a third site (45PI455). Methods used during the remediation program included clearing and grubbing of vegetation subsequent to locating and flagging each hot spot (Daugherty and Condon 2000:7). The excavations generally achieved a depth of 46 cmbs (1.5 feet), and each initial excavation area around a hot spot measured at least 50x50 feet, since the area around removal of a designated hot spot was expanded by 25 feet in each cardinal direction. Figure 2 illustrates the extent of hot spot removal within Lot Y.

Based on existing archaeological data for this area, the types of archaeological materials that might be present in the general vicinity could potentially include the remains of artifacts (e.g., flaked stone tools, tool-making debris, ground stone tools, fire-affected rock), soil discoloration or shell that might indicate the presence of a cultural midden, fire pits, soil depressions, and features indicative of the former presence of structures or buildings (e.g., postholes, foundations) or historic debris (e.g., horse paraphernalia, railroad ties, concrete blocks, metal, glass, ceramics). Chipped stone tools, if present, may be related to either the prehistoric or ethnohistoric periods. Historic-period cultural resources, if present, would most likely be related to settlement in the early 1800s during the HBC/PSAC era, the 9th U.S. Cavalry bivouac and war games of 1904, the early years of the DuPont Powder Works (Old Town period), including construction of the narrow-gauge railroad, and the early years of today’s city of DuPont.

Considering the gravelly nature of the Spanaway soils and the history of disturbance, it is expected that cultural material, if present, would be discovered above a depth of 25 to 30 cmbs (0.8-1 foot). As discussed above, sterile gravels have been encountered at shallow depths (25-30 cmbs) at archaeological sites in this vicinity, including 45PI66 and 45PI455 within the project area.

## OBJECTIVES

As presented in the Permit, the goals of this investigation are to determine if any intact subsurface archaeological deposits from the prehistoric, ethnohistoric, or historic periods remain within the project area, to document them, to add important information to the sites determined eligible (45PI66 Methodist Episcopal Mission site) or considered potentially eligible (45PI455 9th U.S. Cavalry Bivouac site) for NRHP listing, and to assess the potential eligibility for listing on the NRHP of any newly discovered sites. More specifically, based on our knowledge of the prehistory, ethnography, and history of the project vicinity and the results of the prior local archaeological investigations, the following research questions guided the investigation:

1. Is there evidence for the exact location of the 1840–1842 Methodist Episcopal Mission building? Although extensive investigations have taken place within site 45PI66 and chimney stones were recovered, the opinion that the precise location of the Mission was identified is considered equivocal (compare Moura 1991a:8; Daugherty and Condon 2001:48). This site has been determined eligible for NRHP listing under Criterion A, and such evidence (i.e., postholes) would contribute additional important information about the location of the Mission building.
2. Is there additional evidence preserved of the 9<sup>th</sup> U.S. Cavalry 1904 encampment? Investigation extending outward from the backhoe peels completed in 1989 (Moura 1991a, 1991b) and the soil remediation program in 2000 (Daugherty and Condon 2000, 2001) within site 45PI455 may uncover further evidence of this brief occupation by the Buffalo Soldiers, such as privy holes or trash pits. Such evidence would contribute important information to the potential eligibility of this site for NRHP listing.
3. Is there evidence of an intact continuous chipped stone scatter along the northern side of Sequalitchew Creek that indicates Native Americans repeatedly occupied the area prior to Euro-American settlement during the historic period, and does the evidence indicate a firm link between previously recorded resources? Such evidence may connect the four pieces of debitage recorded as isolate 45PI773 and recovered from a series of discontinuous subsurface probes (Wessen et al. 2008) to the seven chipped stone artifacts recovered during the 1989 test excavations at site 45PI455, the 9<sup>th</sup> U.S. Cavalry Bivouac site (Moura 1991a, 1991b).
4. Is there additional evidence for HBC-PSAC activities outside of and not related to previously recorded site 45PI66? If undisturbed deposits or features from this mid-1800s period exist, the newly discovered sites may be eligible for listing on the NRHP, depending on the nature of the discovery (e.g., post holes, privy holes, wells, trash pits, burials, etc.).
5. Is there additional evidence for Old Town period activities outside of and not related to previously recorded site 45PI63 (Railroad Dump)? If undisturbed deposits or features from this early 1900s period exist, the newly discovered sites may be eligible for listing on the NRHP, depending on the nature of the discovery (e.g., trash pits, privy holes, wells, burials, etc.).
6. Is there additional evidence for DuPont period activities outside of and not related to previously recorded site 45PI64 (Burning Ground Dump)? If undisturbed deposits or features dating to this period from the 1920s to 1945 exist, the newly discovered sites may be eligible for listing on the NRHP, depending on the nature of the discovery (e.g., burials, trash pits, wells, privy holes, etc.).

## FIELD METHODS AND PERSONNEL

All work by PCI for this investigation was conducted by professional archaeologists as defined under RCW 27.53.030(8) and who meet the Secretary of the Interior's Standards (National Park Service [NPS], 1983). PCI archaeologists Cindy Arrington, M.S., and Peter Morris completed the fieldwork, and Dr. Nancy Sikes served as the cultural resources Principal Investigator for the project. Kareem Gannie of the Nisqually Tribe served as the project Native American monitor for survey and subsurface testing.

Field methods approved for this project included intensive-level pedestrian survey followed by subsurface testing, and then monitoring of geotechnical subsurface exploration in the project area. These three phases of fieldwork were conducted by PCI archaeologists on the dates in February and March 2011 shown in Table 4. The methods employed for each field phase are presented separately below.

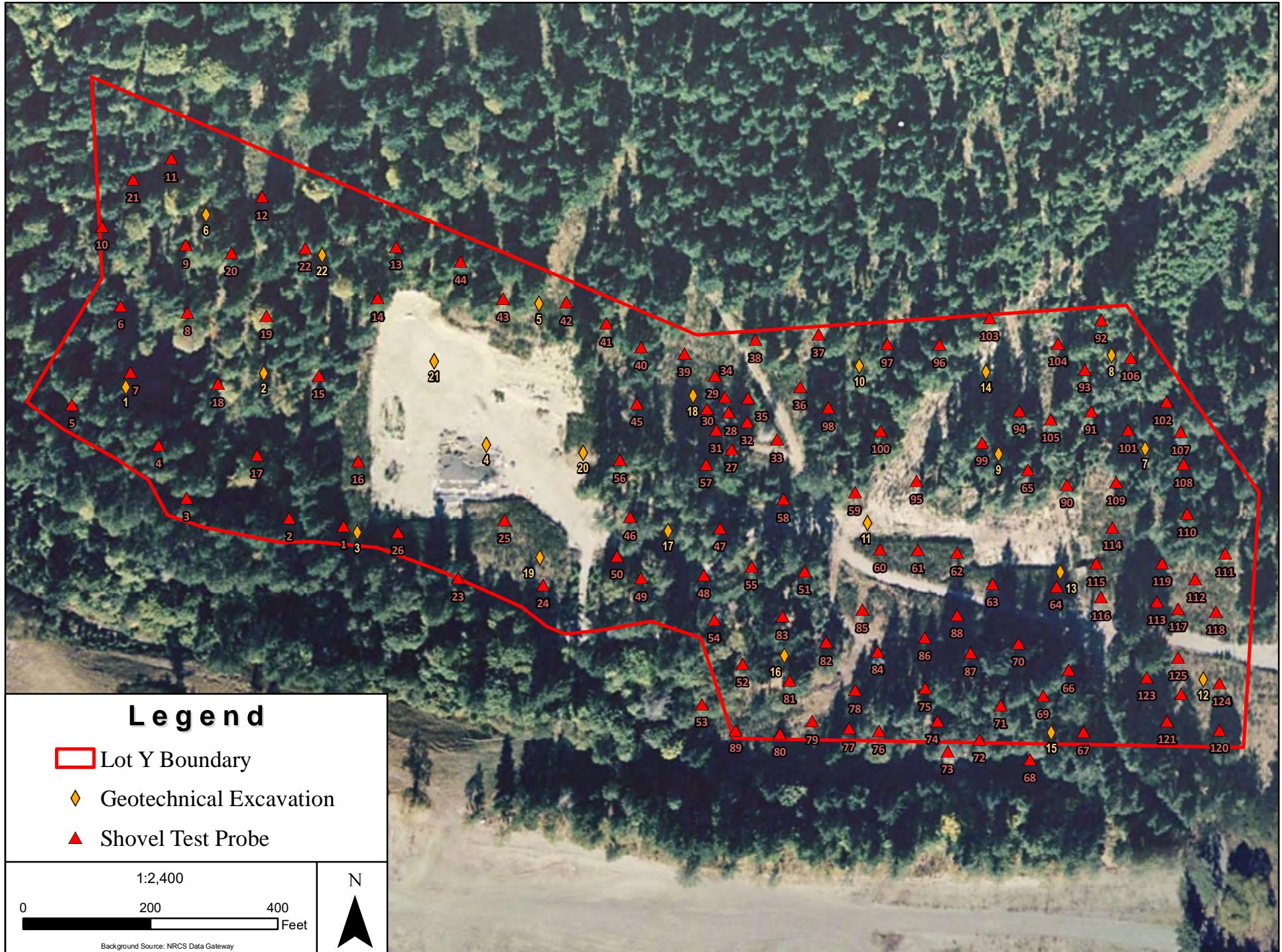
**Table 4. Project Field Phase Dates and Personnel**

Field Phase	Archaeologist (s)	Date of Fieldwork
Survey	Cindy Arrington and Peter Morris	February 17–18, 2011
Subsurface testing	Cindy Arrington	February 21-28 and March 1-2 2011
Monitoring of geotechnical subsurface exploration	Cindy Arrington	March 3-4, 2011

The pedestrian survey was conducted prior to any subsurface excavations to identify any previously unrecorded archaeological material from the prehistoric, ethnohistoric or historic periods that could potentially be present on the surface of the project area. The intensive-level pedestrian survey encompassed the entire 25.3-acre project area. Transect spacing within the project area was no greater than 15 meters apart and was accomplished on an east-to-west bearing. The 25.3-acres surveyed by PCI archaeologists comprise the maximum physical footprint of potential ground-disturbing activities associated with the proposed construction (Figure 1).

Following the pedestrian survey, a series of 125 shovel test probes (STPs) and 22 geotechnical excavations (GTEs) were excavated within the project area at random intervals as shown on Figure 3. At the request of the City of DuPont and DAHP, no STPs were placed in existing trails, pedestrian paths, or gravel roadways. Additionally, all STPs were backfilled and compacted daily. The STPs and GTEs were accomplished by mechanical excavation using a backhoe with a 2-foot bucket attachment and smooth plate. Dan Andreas of Miles Resources operated the mechanical equipment. PCI archaeologists remained at a safe distance from all mechanical equipment, while continuing to examine the sides of the trenches for cultural resources. All field personnel were aware of prior soil contamination within Lot Y (mainly lead and arsenic) and related remediation completed in 1999 and 2000, and observed standard safety protocols.

Each of the 125 STPs measured 3 feet in length and 2.5 feet in width. STP levels were dug in 7-cm (3-inch) increments or until sterile gravels were encountered. Soils taken from the STPs were screened through 1/8-inch hardware cloth. No STPs were placed in three hot spots (HS-3, HS-4 and HS-6, which include the former locations of 45PI63A, 45PI63B, and 45PI64) where the prior remediation efforts 11 years ago removed contaminated soils and where sterile gravel is now exposed throughout these portions of the project area, as clearly visible on the aerial photograph (compare Figures 2 and 3). Sterile gravel was encountered in 123 of 125 STPs between 35 and 130 cmbs (1.1-4.3 feet); mixed stratigraphy or fill was present in two STPs. Records for the individual STPs, detailing levels, soil texture, color, and comments, are located in Appendix C.



Quad Name: Nisqually PR 1981

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DuPont Lot Y: Subsurface Testing Map

Each of the 22 GTEs measured 3 feet wide by 5 feet long. GTE upper levels were dug in 3-inch (7-centimeter) increments or until sterile gravels were encountered, while lower levels, after encountering sterile gravels, were dug in 1-foot increments. Four of the GTEs were excavated within the hot spot removal areas (Figures 2 and 3). Soils taken from the GTEs at 4 feet, 6 feet, and 10 feet were screened through 1/8-inch hardware cloth. Twenty GTEs were excavated to 305 cmbs (10 feet); one GTE with mixed stratigraphy was terminated at 250 cmbs (8.2 feet); one GTE filled with water at 244 cmbs (8 feet). Records for the individual GTEs, detailing levels, soil texture, color, and comments, are located in Appendix C.

All undeveloped ground surface areas within the current project limits were examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, fire pits, soil depressions, and features indicative of the former presence of structures or buildings (e.g., postholes, foundations), or historic debris (e.g., metal, glass, ceramics). Ground disturbances, including a graveled dirt road and dirt two-track, were visually inspected. Climatic conditions varied from sunshine during the first three days of fieldwork to inclement weather (rain, snow, sleet, or hail) during part or all of each succeeding day.

Photographs of the current project area, ground surface visibility, STPs, GTEs, and items of interest were taken with a digital camera. Soil color was recorded using a Munsell® Soil Color Chart. The surveyed acreage and location of the STPs and GTEs were recorded with a handheld Trimble® GeoXT global positioning system (GPS) unit. Field notes and photographs are on file at PCI.

Except for two brick fragments, one flat iron bar and one can, no portable artifacts were identified; no artifacts were collected. For all archaeological materials identified during the fieldwork, PCI archaeologists completed the appropriate Washington Archaeological Site Inventory and Isolate forms.

## FIELD RESULTS

### GENERAL DESCRIPTION AND SUMMARY

The northern, eastern and western sides of the project area are immediately bordered by dense conifer forest (Photograph 4). Elevation within Lot Y increases from 64 meters above mean sea level (msl) by approximately 1 to 3 meters from east to west, and from 61 to 68 meters above msl from south to north. Sequalitche Creek is located approximately 50 feet outside the entire Lot Y southern boundary at the bottom of a steep embankment. At the time of the pedestrian survey, the creek had a generous water flow.



**Photograph 4. Forest to north, east, and west of Lot Y (view to southwest)**

The project area contains four cleared hot spots (HS) where the contaminated topsoil was removed during remediation efforts in 1999 and 2000 (Figure 2). HS-6 is a large semi-square clearing that lacks vegetation, and is currently used as a gravel pit. As shown on the figure, a narrow linear extension of HS-6 extends eastward to meet the western extent of HS-3 south of the recorded boundaries of site 45PI66. Vegetation is re-establishing within the HS-2, HS-3, and HS-4 remediation clearings, and includes mostly small conifers, scotch broom and grasses.

A paved walking trail maintained by the City of DuPont and situated outside the southern border of Lot Y parallels the northern side of Sequalitchew Creek. As shown on Figure 2, a dirt road transects a portion of the project area, running east to west, starting at a chain-link fence on the eastern boundary and ending at the eastern edge of HS-6. The road is approximately 1,067 feet long and has a thin gravel coating. An approximately 460-foot long area devoid of vegetation, the previous location of a narrow-gauge railroad track, leads northeast from HS-3 to HS-4. All railroad tracks were removed from the project area between 1995 and 2000 (personal communication, Fred Foreman).

A non-functional segment of a narrow-gauge railroad track bisects the eastern edge of the project area. There is also a concrete loading platform in the eastern portion of the project area. The platform is located approximately where the former sets of narrow gauge and standard gauge railroad tracks crossed each other as shown on the March 15, 1955 map of the DuPont Works drawn by E. Davies. To the south and immediately outside of the current project area is a set of concrete bridge abutments near Sequalitchew Creek. These are the remnants of a narrow-gauge railroad bridge shown on the 1955 map. The track segment, concrete platform, and set of bridge abutments were recorded as archaeological sites (see below).

As detailed below, except for two brick fragments located on the surface and at depth within the boundaries of 45PI66 (Methodist Episcopal Mission site), no evidence was found during this investigation within Lot Y of the previously recorded sites and isolate covered by the excavation permit.

Vegetation within the project area perimeter consists of open, second growth conifer forest dominated by Douglas fir, sword fern, and scotch broom, and includes red alder, elderberry, and grasses. Visibility on the ground in the majority of the project area is very poor, near zero percent, due to a dense coverage of grass, moss, and forest duff (Photograph 5). In the open ground areas in HS-6 and HS-3, visibility is good to excellent, ranging between 30 and 100 percent (Photograph 6).



**Photograph 5. Visibility at 0% (view to northeast)**



**Photograph 6. Visibility at 30-100% (view to northeast)**

## SUBSURFACE TESTING RESULTS

The subsurface stratigraphy was consistent within 123 of the 125 STPs and all 22 GTEs excavated within the project area (Figure 3). The soil throughout the project area is consistent with the description for the Spanaway series developed on glacial outwash sediments (Soil Survey Staff 2009). There are three soil horizons, though horizon 2 is not present in all STPs or GTEs. The depth of the horizons varies across the Lot Y landscape in relation to the topography and prior human disturbance. Horizon 1 is a moist, very dark brown (10 YR 2/2) gravelly sandy loam with weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots with a very high organic matter content. Horizon 2 is a moist very fine crumb dark gray brown (10 YR 3/2) gravelly sandy loam with little distinction in texture from horizon 1. Horizon 3 is moist and fluctuates between a dark gray brown (2 YR 4/2) and an olive brown (2YR 4/4) gravelly sand with no soil matrix. The single grained, loose sand is the prominent content with some rounded to sub-rounded cobbles; it is also very compact.

Only two of the subsurface units (STPs 28 and 115) contained cultural material. A brick fragment, measuring 3x4x2 inches, was located at 20 cmbs (8 inches) in STP 28 within site 45PI66 (Methodist Episcopal Mission). The brick was not handmade and no maker's marks were located on the fragment. Additionally, a smaller brick fragment was located at ground level within inches of STP 35 (also within 45PI66). STP 115 is located 18.5 feet due east of a concrete platform and the soil is entirely mixed down to a level of 200 cmbs (6.6 feet). A flat iron bar with four bolts protruding was located at 160 cmbs (5.2 feet). The iron bar measured 24 inches long by 3 inches wide and 1/8<sup>th</sup> inch thick, and has four 3.5-inch metal bolts spaced roughly 7 to 8 inches apart (Photograph 7). The iron bar appears to be associated with the concrete platform, given its close proximity and the paint on the bolt heads matches the metal on the platform.



**Photograph 7. Flat iron bar in STP 115 (plan view)**

All but two of the 125 STPs (STP 89 and 115) were excavated until sterile gravel was encountered. Although the presence of the Spanaway series soil horizons was consistent, the depth of sterile gravel varied from 35 cmbs to 130 cmbs (1.1-4.3 feet) across the project area. STP 115 had mixed stratigraphy and was excavated to a depth of 200 cmbs (6.6 feet). The soil in STP 89 is a moist, brown (7.5 YR 4/4) silty loam until the typical underlying horizon appears at 110 cmbs (3.6 feet) as a moist, dark green brown (2.5 YR 4/4) gravelly sand. The typical upper horizon of gravelly sandy loam appears to have been removed near STP 89 and replaced with imported soil. The STP was placed 66 feet northeast of the set of bridge abutments. It seems likely that more stable soil was imported for the approach to the narrow-gauge bridge that once crossed Sequalitchew Creek.

Six of the STPs located in the eastern portion of the project (STPs 113, 116-119) near the gravel road each display a gray upper horizon not noted in any other portion of the project area (Photograph 8). The moist, dark gray (2.5 YR 3/1) soil is similar in structure to the typical horizon 1, but is noticeably different in color and is relatively thin (0-25 cm [0-9.8 inches]), and is likely related to prior disturbance.

STPs 120 through 125, located in the southeastern portion of the project area, all show evidence of a grass fire. Small flecks of charcoal are noted in the upper 5 cm of each unit. Of these six STPs, only STP 120—with a total depth of 95 cmbs (3.1 feet) and nearest the creek—contained horizon 2. The profiles in STPs 121 through 125 are restricted to horizon 1 (0-60 cmbs [0-23.6 inches]) and horizon 3 (60-80 cmbs [23.6-31.5 inches]).

With the exception of the brick fragment in STP 28 and the iron bar in STP 115, no cultural material was located in the series of 125 STPs excavated within the project area.



**Photograph 8. Upper gray horizon in eastern STPs near gravel road (view to west)**

#### **GEOTECHNICAL SUBSURFACE EXPLORATION RESULTS**

Of the 22 GTEs placed in the project area (Figure 3), all but two (GTEs 9 and 14) were taken to a depth of 305 cmbs (10 feet). The soils throughout the GTEs are relatively consistent with the Spanaway series (Photograph 9), although only five (GTEs 1, 3, 5, 12, 13, and 15) contain horizon 2.

In the eastern sector of the project area, GTE 9 has mixed stratigraphy and was excavated to a depth of 250 cmbs (8.2 feet). The upper horizon is a thin layer of sand (0-20 cmbs [0-8 inches]) followed by a mix of horizon 1 very dark brown (10 YR 2/2) gravelly sandy loam and sand with very few cobbles. It appears to be imported fill material. This unit is in close proximity to two of the hot spots (HS-3 and HS-4) cleared for soil contamination (compare Figures 2 and 3). In the northeastern sector, GTE 14 was terminated at 244 cmbs (8 feet) when water entered the unit and began to fill rapidly.

No cultural material was located in any of the 22 GTEs excavated within Lot Y.



**Photograph 9. Sediments within GTE 16 (plan view)**

#### **PREVIOUSLY RECORDED RESOURCES WITHIN PROJECT AREA**

The only evidence found during this investigation within Lot Y of the two previously recorded historic archaeological sites (45PI66 and 45PI455) and one prehistoric isolate (45PI773) was the two brick fragments located within the boundaries of 45PI66, the Methodist Episcopal Mission site. In addition, there was no evidence of the two archaeological sites (45PI63 and 45PI64) formerly located within Lot Y that were completely removed during hazardous materials remediation in 2000.

#### **45PI66 Methodist Episcopal Mission Site**

During this field investigation, eight STPs (STPs 28-35) were placed within the previously identified boundary of 45PI66. Two fragmented red brick pieces were located: one fragmented piece in STP 28 at 20 cmbs (8 inches) (Photograph 10) and one at ground level within inches of STP 35. The larger of the two brick fragments (3x4x2 inches in STP 28) was not handmade and had no maker's marks. No other cultural artifacts were identified within the site boundary.



**Photograph 10. Brick fragment in STP 28 (plan view)**

The soil within the STPs placed within the site boundaries is a shallow (0-25 cm [0-9.8 inch]) moist, very dark brown (10 YR 2/2) gravelly sandy loam with a weak fine granular structure; soft, very friable, nonsticky and nonplastic; with many fine roots and a very high organic matter content. Below the single soil horizon is a moist, dark gray brown (2.5 YR R 4/2) gravelly sand with no soil matrix. Within the single-grained, loose sand are some medium to large rounded to sub-rounded cobbles. This profile description is consistent with that described during the archaeological excavations conducted in 1989 within 45PI66 (Welch 1989a; Moura 1991a). Those excavations were stopped when sterile gravels were encountered at 25 cmbs (0.8 feet).

No evidence was discovered during this investigation of the exact location of the 1840–1842 Methodist Episcopal Mission building or of any undisturbed archaeological deposits or features related to the mission, the HBC/PSAC era, or any other archaeological period. The work further substantiates the opinion that site 45PI66 is not eligible under Criterion D (data potential). The Methodist Episcopal Mission site has, however, been determined eligible for NRHP listing under Criterion A for its association with significant events.

### **45PI455 9th U.S. Cavalry Bivouac Site**

There was no surface evidence of site 45PI455 during this investigation and no cultural material or deposits within a series of 12 STPs (STPs 72-82 and 84) placed within or adjacent to the recorded site boundaries. The soil horizons within the STPs are consistent with the Spanaway series, with the lower gravelly sand horizon encountered between 35 and 70 cmbs (1.1-2.3 feet). During test excavations in 1989 when nearly 1,000 artifacts and animal bone fragments were collected, sterile gravels were encountered within 30 cmbs (1 foot) (Moura 1991a:9, 1991b:1).

No additional evidence of the 9<sup>th</sup> U.S. Cavalry 1904 encampment or of any undisturbed archaeological deposits or features was discovered during this investigation. Since 1998 when State Archaeologist Robert Whitlam indicated this site is potentially eligible for NRHP listing and recommended further work to define the boundaries of the Native American and Buffalo Soldier occupations, no further evidence of site 45PI455 was uncovered during the remediation program a decade ago (Daugherty and Condon 2000, 2001) or during the current endeavor. Site 45PI455 is thus not considered eligible for NRHP listing under Criterion D (data potential). The 9<sup>th</sup> U.S. Cavalry Bivouac site is, however, considered potentially eligible for NRHP inclusion as part of the proposed Nisqually-Sequalitchew Historic District.

### **45PI773 Prehistoric Chipped Stone Isolate**

No cultural material was identified on the surface of 45PI773 or within three STPs (STPs 72, 77, 80) placed during this field investigation within or adjacent to the locations of the shovel test probes excavated in 2005 (Wessen et al. 2005, 2008). The soil horizons within the three STPs are consistent with the Spanaway series, with the lower gravelly sand horizon encountered between 22 and 70 cmbs (0.7-2.3 feet). The soil profile in the vicinity of where the four pieces of debitage were encountered in the series of discontinuous subsurface probes was described by Wessen et al. as having three strata (2008:30) with the lower gravelly sand horizon with cobbles at 50 cmbs (1.6 feet).

No evidence was discovered during this investigation of any undisturbed archaeological deposits or features, including no sign of an intact continuous chipped stone scatter along the northern side of Sequalitchew Creek that might have linked the four pieces of debitage recorded as isolate 45PI773 to the seven chipped stone artifacts recovered during the 1989 test excavations at nearby 45PI455 (9<sup>th</sup> U.S. Cavalry Bivouac site). PCI agrees with the prior recommendation that isolate 45PI773 is ineligible for NRHP listing.

## NEWLY IDENTIFIED RESOURCES WITHIN PROJECT AREA

Four historic period resources were newly identified during the pedestrian survey: three archaeological sites and one isolate (Figure 2). The three sites include a segment of a previously identified narrow-gauge railroad track and grade (45PI01224), a railroad concrete loading platform (45PI01225), and a set of railroad bridge abutments (45PI01226). The isolate (45PI00064) is one galvanized kerosene can. A brief description of the newly identified historic period resources is presented below. Detailed information can be found in the State of Washington Archaeological Site Inventory and Isolate Forms, attached as Appendix D.

No prehistoric or ethnohistoric period resources were newly identified during pedestrian survey of the surface or within the subsurface excavations.

### **45PI01224 Narrow Gauge Railroad Track**

This site was originally recorded by Arrington during survey in 2010 of the 12.8-acre property (known as Lot X) adjacent to the eastern edge of Lot Y (Sikes and Arrington 2010). It is a non-functional segment of a narrow-gauge railroad track situated on an earthen berm; it extends into both Lots X and Y beneath a chain-link fence marking the property boundaries. The track and berm bisect the eastern edge of the Lot Y project area (Figure 2; Photograph 11). The earthen berm is approximately 20 inches high and 20 feet wide. The narrow gauge track extends 207 feet west from the eastern project area boundary. The site is covered with forest duff, lichen, and scotch broom. The narrow-gauge track and berm continue east into Lot X beneath the chain-link fence for approximately 98 feet.

The short abandoned track and berm segment are attributed to construction by the DuPont Powder Works; the narrow-gauge railroad was used to transport their products during the Old Town period (1906-1920s). This site is recommended ineligible for listing on the NRHP or WHR. The segment is in poor condition with no evidence of associated artifacts or cultural deposits and has no potential to yield additional information. The eastern end of the spur was truncated presumably after DuPont Powder Works closed in 1976.



**Photograph 11. 45PI01224 segment of narrow-gauge track (view to east)**

### **45PI01225 Concrete Loading Platform**

A concrete loading platform is located approximately where the standard-gauge and one of the narrow-gauge tracks previously crossed near the eastern edge of Lot Y. The platform is visible on satellite imagery, but was previously unrecorded. During the functional period of the platform, it likely was used

for loading or unloading materials onto DuPont Powder Works trains that would have moved east to west and north to south past the platform.

The platform is primarily concrete, with a steel railing as a perimeter of the upper platform surface. The platform is 192 inches square and 77 inches tall. The surface perimeter has a 3-inch concrete lip with occasional breaks to permit loading access. There is an arrangement of 2-inch by 6-inch wood boards bolted to the interior surface of the concrete lip, with a steel railing situated along the perimeter lip of the platform (Photograph 12). The railing is painted yellow and is 39.5 inches tall, with a lower bar and upper bar. The lower bar is 19.5 inches high, and the upper bar is 39 inches high. There are openings in the rail with steel chains stretched across on the south and east sides of the platform; one opening is 55 inches wide, and the other is 51 inches wide.

On the north side of the platform there is a 30-inch wide opening that appears to be a person-access stepping platform, with vertical handrails and a swinging safety bar (non-operational). On the east of the platform is a small debris pile consisting of heavy-gauge sheet metal, milled lumber, crushed pipe (1.5-inch diameter), and steel railing segment with chain. The platform is built with well sorted aggregate, form poured concrete. It does not appear on the very detailed 1955 map drawn by E. Davies. Locals recall the platform was not built until the early 1960s and then it was seldom used (personal communication, Fred Foreman). This site has no potential to yield additional information and is recommended ineligible for listing on the NRHP or WHR.



**Photograph 12. Concrete loading platform (view to east)**

#### **45PI01226 Railroad Bridge Abutments**

This site is comprised of the remnants of a narrow-gauge railroad bridge that traversed Sequalitchew Creek from north to south. This bridge crossing is shown on the 1955 map drawn by E. Davies. The remains include two concrete abutments that have a 165-inch horizontal separation (Photograph 13). Both abutments have a poured-form aggregate concrete construction, with a smooth finished top. The lower abutment is 150 inches long, 32 inches high from the ground, and 12 inches wide at the top. The upper abutment is 128 inches long, 51 inches high from the ground, with the base at 20 inches wide, and the top of the abutment 12.5 inches wide. The abutments are covered with moss and are surrounded by decomposing forest duff and vegetation, including ferns, conifers, deciduous trees, and grasses.

The set of abutments is immediately outside of the Lot Y project area, and 35 feet north of Sequalitchew Creek (Figure 2). There are two pieces of milled lumber located between the abutments; they are each 6 by 6 inches, but vary in length. One piece is 45 inches long, and the other is 60 inches long. The longer

piece is intact, and has a 5-inch by 8.5-inch metal cleat with spikes on one side (Photograph 14). An identical set of concrete abutments is visible on the south side of the creek outside the project area.

This bridge was the only narrow-gauge railroad bridge within the DuPont Powder Works to cross Sequalitchew Creek, and is shown on the 1955 map drawn by E. Davies. It was used for transport of material by train from the plant to the burning ground (later recorded as 45PI64) and then proceeding further north to the storage area (personal communication, Fred Foreman and Johanna Jones). The bridge was removed in the late 1990s. The remaining set of abutments has no potential to yield additional information and is recommended ineligible for listing on the NRHP or WHR.



**Photograph 13. Bridge abutment (view to north)**



**Photograph 14. Wood debris showing cleat (plan view)**

#### **45PI00064 Parus Isolate #1 Kerosene Can**

A galvanized kerosene can was located near the edge of the northwest corner of the area known locally as the “gravel pit” (HS-6 on Figure 2) and formerly the burning ground (45PI64). The sides of the can are dented and it exhibits some oxidation. It is missing the pour spout and wire handle, but is mostly intact (Photograph 15). The top is domed and ribbed, and the base diameter is 11 inches, with a height of 14 inches. The dimensions suggest the volume of this can was approximately 5 gallons. Considering the lengthy range of manufacture, the age of the can is undeterminable.



**Photograph 15. Kerosene can (plan view)**

## **PROJECT CONCLUSIONS, FINDINGS AND RECOMMENDATIONS**

No evidence was found during this investigation within Lot Y of 45PI66 (Methodist Episcopal Mission site), 45PI455 (9th U.S. Cavalry Bivouac site) or 45PI773 (chipped stone isolate), except for two brick fragments located on the surface and at depth within the boundaries of 45PI66. Nor was there any surface or subsurface evidence of the two archaeological sites (45PI63 and 45PI64) formerly located within Lot Y that were completely removed a decade ago during hazardous materials remediation.

No historic properties will be affected by implementation of the Lot Y project. Although the Methodist Episcopal Mission site has been determined eligible for NRHP listing under Criterion A for its association with significant events and also contributes to the proposed Nisqually-Sequalitchew Historic District, site 45PI66 is not eligible under Criterion D (data potential). Similarly, although the location of the brief occupation by the 9<sup>th</sup> U.S. Cavalry Buffalo Soldiers is potentially eligible for NRHP inclusion as a contributing element of the proposed Nisqually-Sequalitchew Historic District under Criterion A, site 45PI455 is not considered eligible for NRHP listing under Criterion D. Isolate 45PI773 is considered ineligible for NRHP listing.

The two newly identified sites within Lot Y, 45PI1224 (railroad track segment) and 45PI01225 (concrete platform), and are recommended ineligible for listing on the NRHP or WHR. The kerosene can isolate (45PI00064) is considered ineligible for listing. The third newly identified site, 45PI01226 (bridge abutments; also recommended ineligible for listing on the NRHP or WHR), is located immediately outside the Lot Y project area.

Considering the results of the literature search, local ethnographic settlement and subsistence patterns, the prehistory and history of the vicinity, and DAHP's predictive model, the project area is considered highly sensitive for prehistoric, ethnohistoric, and historic-era cultural resources. On the other hand, Lot Y has been extensively disturbed beginning with historic period settlement in the early 1880s, then operation of the DuPont Powder Works in the early to mid-1900s (including use of part of Lot Y as a burning ground dump from the 1930s until 1945), followed by subsurface archaeological investigations and related artifact collection between 1989 and 2005 and by environmental remediation activities in 1999 and 2000. Based on the lack of cultural deposits in the gravelly sandy loam and gravelly sand subsurface sediments exposed in the series of 125 STPs and 22 GTEs excavated to depths between 35 and 305 cmbs (1.1-10

feet), the potential for discovery of buried archaeological materials, features or deposits by implementation of this project is considered low. Therefore, no further cultural resource action is warranted.

There is always the potential for the existence of buried archaeological materials within the project area, mostly likely restricted to shallow depths above the outwash gravels, and an Unanticipated Cultural Resources Discovery Plan has been prepared for the project and is attached to this report as Appendix E. Pursuant to the Discovery Plan, should cultural resources be encountered during construction or ground-disturbing activities connected with this project, work in the area must be halted and a professional archaeologist, who meets the definition under RCW 27.53.030(8), should be notified immediately to evaluate the resource(s) encountered. Should human skeletal remains be encountered, all activity in the area must halt, the remains protected from further disturbance, and the county coroner and local law enforcement notified immediately (RCW 27.44, 68.50, 68.60).

Resources within this area that might be encountered might include prehistoric and ethnohistoric materials such as flaked stone tools, tool-making debris, stone milling tools, fire-affected rock, basketry, culturally modified animal bone, fishing implements or soil darkened by cultural activities (midden). Historic materials might include remnants of railroad or roadway construction activities or other industry or commerce (e.g., railroad ties, concrete blocks, machinery parts), building remains, metal, glass, cans, ceramic artifacts, or other debris older than 50 years.

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**APPENDIX A:**  
**Archaeological Excavation Permit No. 2010-54**



STATE OF WASHINGTON  
DEPARTMENT OF ARCHAEOLOGY AND HISTORIC PRESERVATION

1063 S. Capitol Way, Suite 106 • Olympia, Washington 98501

Mailing address: PO Box 48343 • Olympia, Washington 98504-8343

(360) 586-3065 • Fax Number (360) 586-3067 • Website: [www.dahp.wa.gov](http://www.dahp.wa.gov)

February 7, 2011

Ms. Lia Estigoy  
DuPont Industrial Partners, LLC  
1201 Pacific Avenue, Suite 1501  
Tacoma, WA 98402

Nancy E. Sikes and Cindy Arrington  
GeoEngineers, Inc.  
1101 S. Fawcett Avenue, Suite 200  
Tacoma, WA 98402

Dear Ms. Estigoy, Ms. Sikes and Ms. Arrington:

I have reviewed the application you submitted for archaeological excavations at 45PI00066. It is my intention to grant the permit application for excavations at 45PI00066. Please take note of the Special Conditions on the permit.

If you feel aggrieved by this decision you may request an administrative hearing within twenty-one days after receipt of this notice. Your request should be sent to the address listed below.

Director  
Department of Archaeology and Historic Preservation  
PO Box 48343  
Olympia, WA 98504-8343

Sincerely,

A handwritten signature in blue ink that reads "Stephenie Kramer".

Stephenie Kramer  
Assistant State Archaeologist  
(360) 586-3083  
Email: [stephenie.kramer@dahp.wa.gov](mailto:stephenie.kramer@dahp.wa.gov)

Enclosure



DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION

*Protect the Past, Shape the Future*



STATE OF WASHINGTON

**DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION**

1063 S. Capitol Way, Suite 106 • Olympia, Washington 98501  
Mailing address: PO Box 48343 • Olympia, Washington 98504-8343

**ARCHAEOLOGICAL EXCAVATION PERMIT**  
**NO: 2010-54**

Archaeological sites: 45PI66, 45PI455 and 45PI773, Lot Y

Individual Responsible for carrying out Lia Estigoy  
the terms and conditions of the permit: Property Owner

Individual responsible for field investigations: Nancy Sikes & Cindy Arrington  
GeoEngineers, Inc.

Nature of work: Sub-surface survey and geotechnical pits, archaeological testing

Repository in which collected records and Nisqually Tribe & DuPont Historical Museum;  
data shall be deposited: cc DAHP on transfer

Date fieldwork to begin: Upon receipt; but notify DAHP and Tribes via email  
before starting

Date fieldwork shall end: April 31, 2011

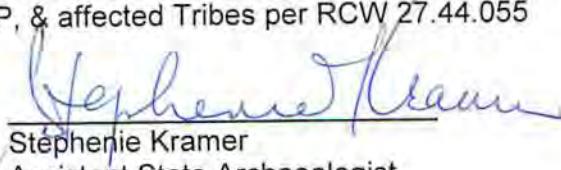
Period of analysis: Concurrent through May 31, 2011

Date final report due: May 31, 2011  
Per WAC 25-48-041, if the report is late, a Notice of  
Violation will be issued & a \$5000 penalty assessed

**Special Conditions:**

- Follow protocols stated in permit application of 12/2/10 and email of 2/7/11
- Notify DAHP and Tribes if intact archaeological deposits are observed
- Switch to hand excavation for intact deposits
- Restore trails if units are needed in trail areas
- Be aware of City of DuPont's comments regarding arsenic
- Provide copy of report to DAHP & affected Tribes
- Report must meet DAHP's Survey and Inventory Standards
- Append catalog & BetaAnalytic sheets to report, reference permit number
- If human remains are encountered, stop work, secure the area, notify the county coroner, sheriff, DAHP, & affected Tribes per RCW 27.44.055

Issued this 7th day of February 2011.

  
Stephenie Kramer  
Assistant State Archaeologist

**APPENDIX B:**  
**Correspondence with Local Tribes**

**Native American Tracking Sheet**  
**DuPont Industrial Partners, LLC**  
**DuPont, WA – Lot Y**

**GeoEngineers Project No. 16785-003-00**

Contact Name	Date Letter Sent Via Email	Comments/Concerns Recommendation
Puyallup Tribe 3009 East Portland Avenue Tacoma, Washington 98404 Judy Wright, THPO Cultural Resources 253-573-7897  <a href="mailto:Judy.Wright@puyalluptribe.com">Judy.Wright@puyalluptribe.com</a>	<b>11-8-2010</b>	No response
Nisqually Tribe 4820 She-Nah-num Drive SE Olympia, Washington 98513 360-456-5221 phone Thor Hoyte, Cultural Resources  <a href="mailto:Hoyte.thor@nisqually-nsn.gov">Hoyte.thor@nisqually-nsn.gov</a>	<b>11-8-2010</b>  <b>11-16-10</b>  <b>12-2-10</b>	11-8-2010: Received a phone call from Joe Kalama in reply to the information letter sent out. The Tribe wishes to monitor subsurface disturbance. We spoke briefly regarding the proposed field schedule (February of 2011) and agreed that I will contact the Tribe in late January to review field schedule and set up a Native American monitor.  I received an email from Mr. Hoyte informing me that he was no longer representing the Nisqually Tribe and that all inquires should be directed to Joe Kalama of the Tribe. I spoke with and emailed Mr. Kalama on 11-19-10 to let him know the scope and nature of the project and that our client was requesting a curation letter from the tribe for any prehistoric and/or ethnohistoric artifacts that may be identified during the field testing (a copy of this email is attached). Mr. Kalama assured me that the Tribe would accept the artifacts and that a letter stating such is currently being drafted.  We have not heard from nor received the curation letter from Mr. Kalama. I have sent a second email requesting the curation letter.
Squaxin Tribe SE 70 Squaxin Lane Shelton, Washington 98584 Rhonda Foster, THPO Cultural Resources 360-432-3850  <a href="mailto:rfoster@squaxin.nsn.us">rfoster@squaxin.nsn.us</a>	<b>11-8-2010</b>	No response



1101 S Fawcett, Suite 200  
Tacoma, Washington 98402  
253.383.4940

November 8, 2010

Puyallup Tribe  
3009 East Portland Avenue  
Tacoma, Washington 98404

Attention: Judy Wright, THPO Cultural Resources

Sent via email: [Judy.Wright@puyalluptribe.com](mailto:Judy.Wright@puyalluptribe.com)

Subject: Cultural Resources Assessment for the DuPont Industrial Partners, LLC, Lot Y DuPont  
Washington

Dear Ms. Wright:

I am writing to inform you of a cultural resources assessment that is planned for the above-referenced project. GeoEngineers is conducting this assessment at the request of the DuPont Industrial Partners, LLC. The project is located northwest of the town of DuPont near the intersection of Center Drive and Powerline Road in the City of DuPont, Washington (Township 19N, Range 01E, Section 26 on the Nisqually 7.5 quadrangle, Willamette Meridian). The project will consist of an intensive pedestrian survey and subsurface testing in the form of auger units for a total of approximately 26-acres (Figure 1).

Archaeologists have previously recorded and investigated four sites on Lot Y: 45PI63, the Railroad Dump #3 Site; 45PI66, the Methodist Episcopal Mission Site; 45PI455, the 9th Cavalry Bivouac Site; and 45PI773, a small lithic scatter. Additionally, Site 45PI64 The Burning Ground Dump Site, had been recorded in 1977 and additional work done in 2000. The entire site (approximately 3,000 square feet) was removed during a hot spot or contaminated soils treatment program for hazardous substances in 2001. In 1993, the SHPO determined the site ineligible for NRHP listing.

An Application for an Archaeological Excavation Permit is being completed pursuant to permit requirements found in the Washington Administrative Code [WAC] 25-48-060. There is no federal involvement in this project. The work for the proposed project will be conducted under prevailing Washington state laws, which serve to protect from known disturbance of archaeological sites and Native American graves on both public and private lands. These laws include Executive Order 05-05, Indian Graves and Records (Revised Code of Washington [RCW] 27.44), Archaeological Sites and Resources (RCW 27.53), Archaeological Excavation and Removal Permit (WAC 25-48), and Discovery of Human Remains (RCW 27.44).

GeoEngineers is in the process of reviewing available background information. Background research will include a site files search at the Washington State Department of Archaeology and Historic Preservation, review of previously recorded cultural resource sites, reports, and review pertinent published literature and ethnographies. Results of our investigation will be presented in a technical report.



We are aware that all information regarding cultural resources is within published sources. Should the Tribe have additional information concerning cultural resources, we would like to include it in our study. Please contact me should you wish to provide any comments or additional information. I appreciate your assistance in this matter and look forward to hearing from you. If I can answer any questions you may have, please do not hesitate to contact me at [Carrington@geoengineers.com](mailto:Carrington@geoengineers.com) or at 916-765-9381.

Best Regards,



Cindy Arrington

Cultural Resource Specialist

Attachment:

Figure 1





1101 S Fawcett, Suite 200  
Tacoma, Washington 98402  
253.383.4940

November 8, 2010

Nisqually Tribe  
4820 She-Nah-num Drive SE  
Olympia, Washington 98513

Attention: Thor Hoyte, Cultural Resources

Sent via email: [Hoyte.thor@nisqually-nsn.gov](mailto:Hoyte.thor@nisqually-nsn.gov)

Subject: Cultural Resources Assessment for the DuPont Industrial Partners, LLC, Lot Y DuPont  
Washington

Dear Mr. Hoyte:

I am writing to inform you of a cultural resources assessment that is planned for the above-referenced project. GeoEngineers is conducting this assessment at the request of the DuPont Industrial Partners, LLC. The project is located northwest of the town of DuPont near the intersection of Center Drive and Powerline Road in the City of DuPont, Washington (Township 19N, Range 01E, Section 26 on the Nisqually 7.5 quadrangle, Willamette Meridian). The project will consist of an intensive pedestrian survey and subsurface testing in the form of auger units for a total of approximately 26-acres (Figure 1).

Archaeologists have previously recorded and investigated four sites on Lot Y: 45PI63, the Railroad Dump #3 Site; 45PI66, the Methodist Episcopal Mission Site; 45PI455, the 9th Cavalry Bivouac Site; and 45PI773, a small lithic scatter. Additionally, Site 45PI64 The Burning Ground Dump Site, had been recorded in 1977 and additional work done in 2000. The entire site (approximately 3,000 square feet) was removed during a hot spot or contaminated soils treatment program for hazardous substances in 2001. In 1993, the SHPO determined the site ineligible for NRHP listing.

An Application for an Archaeological Excavation Permit is being completed pursuant to permit requirements found in the Washington Administrative Code [WAC] 25-48-060. There is no federal involvement in this project. The work for the proposed project will be conducted under prevailing Washington state laws, which serve to protect from known disturbance of archaeological sites and Native American graves on both public and private lands. These laws include Executive Order 05-05, Indian Graves and Records (Revised Code of Washington [RCW] 27.44), Archaeological Sites and Resources (RCW 27.53), Archaeological Excavation and Removal Permit (WAC 25-48), and Discovery of Human Remains (RCW 27.44).

GeoEngineers is in the process of reviewing available background information. Background research will include a site files search at the Washington State Department of Archaeology and Historic Preservation, review of previously recorded cultural resource sites, reports, and review pertinent published literature and ethnographies. Results of our investigation will be presented in a technical report.



We are aware that all information regarding cultural resources is within published sources. Should the Tribe have additional information concerning cultural resources, we would like to include it in our study. Please contact me should you wish to provide any comments or additional information. I appreciate your assistance in this matter and look forward to hearing from you. If I can answer any questions you may have, please do not hesitate to contact me at [Carrington@geoengineers.com](mailto:Carrington@geoengineers.com) or at 916-765-9381.

Best Regards,



Cindy Arrington

Cultural Resource Specialist

Attachment:

Figure 1





1101 S Fawcett, Suite 200  
Tacoma, Washington 98402  
253.383.4940

November 8, 2010

Squaxin Tribe  
SE 70 Squaxin Lane  
Shelton, Washington 98584

Attention: Rhonda Foster, THPO Cultural Resources

Sent via email: [rfoster@squaxin.nsn.us](mailto:rfoster@squaxin.nsn.us)

Subject: Cultural Resources Assessment for the DuPont Industrial Partners, LLC, Lot Y DuPont  
Washington

Dear Ms. Foster:

I am writing to inform you of a cultural resources assessment that is planned for the above-referenced project. GeoEngineers is conducting this assessment at the request of the DuPont Industrial Partners, LLC. The project is located northwest of the town of DuPont near the intersection of Center Drive and Powerline Road in the City of DuPont, Washington (Township 19N, Range 01E, Section 26 on the Nisqually 7.5 quadrangle, Willamette Meridian). The project will consist of an intensive pedestrian survey and subsurface testing in the form of auger units for a total of approximately 26-acres (Figure 1).

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Best Regards,



Cindy Arrington

Cultural Resource Specialist

Attachment:

Figure 1





Lot Y

T19N, R 1E, Section 26

USGS 7.5' Topographic Map Series, Nisqually (1981) Quad.

1:24,000

2,000

2,000

1

Office: Tacoma

### Notes:

Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
3. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission.

Data Sources: ESRI Data & Maps, Street Maps 2005  
Transverse Mercator, Zone 10 N North, North American Datum  
North arrow oriented to grid north

### Location of Lot Y

DuPont Industrial Partners, LLC  
Dupont, Washington

**GEOENGINEERS** 

**Figure 1**

**From:** Cindy J. Arrington  
**To:** [kalama.joe@nisqually-nsn.gov](mailto:kalama.joe@nisqually-nsn.gov)  
**Subject:** RE: Requested information  
**Date:** Friday, November 19, 2010 7:55:00 AM

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Good Morning Joe:

I have an upcoming project in DuPont and which requires a Washington Archaeological Excavation permit. It is my clients intention to donate to the Nisqually Tribe ("Tribe") and/or DuPont Historical Museum ("Museum") any archaeological materials collected during the subsurface archaeological excavations planned on their private land ("Lot Y") in the City of DuPont, Pierce County, Washington. The project comprises approximately 26 acres, the property is located west of Center Drive and north of Sequalitchew Creek. It is situated in Section 26 of Township 19 North Range 1 East, on the 1981 Nisqually 7.5-minute USGS topographic map (Willamette Meridian).

Permission for excavation and related removal of archaeological material from Lot Y is being requested in an Archaeological Excavation Permit filed with the Department of Archaeology and Historic Preservation (DAHP) pursuant to permit requirements found in the Washington Administrative Code 25-48-060. As part of that permit, I need to secure curation letters from those individuals we seek to donate the artifacts to, should any artifacts be located/identified. Please note that subsurface testing will not begin until February 2011.

It is our intention that archaeological materials associated with the prehistoric or ethnohistoric periods will be donated to the Tribe for curation, and that historic period archaeological materials will be donated to the Museum for curation. A catalog and copies of records, data, photographs, and other documents derived from the excavation process will accompany any collection donated to either the Tribe or Museum.

If you could please contact me at your earliest convenience so that we may discuss the project.

Cindy J. Arrington, M.S., RPA  
Associate  
Cultural Resource Specialist

**GeoEngineers**  
t: 916.444.5825  
f: 916.441.2532  
c: 916.765.9381  
e: [carrington@geoengineers.com](mailto:carrington@geoengineers.com)

3301 C Street, Suite 200 A  
Sacramento, California 95816  
[www.geoengineers.com](http://www.geoengineers.com)

---

**From:** Thor Hoyte [mailto:[hoyte.thor@nisqually-nsn.gov](mailto:hoyte.thor@nisqually-nsn.gov)]  
**Sent:** Wednesday, November 17, 2010 1:59 PM  
**To:** Cindy J. Arrington  
**Cc:** [kalama.joe@nisqually-nsn.gov](mailto:kalama.joe@nisqually-nsn.gov)  
**Subject:** Re: Requested information

Sorry. Please contact Joe Kalama, who is on this email.

On Nov 16, 2010, at 12:24 PM, "Cindy J. Arrington" <[carrington@geoengineers.com](mailto:carrington@geoengineers.com)>

wrote:

Good Afternoon Mr. Hoyte: On November 5, I sent an email requesting your assistance with a project in DuPont, WA. I have not received a reply and have been unable to reach you by phone. If you could contact me at your earliest convenience.

Best regards,

Cindy J. Arrington, M.S., RPA  
Associate  
Cultural Resource Specialist

**GeoEngineers**

t: 916.444.5825  
f: 916.441.2532  
c: 916.765.9381  
e: [carrington@geoengineers.com](mailto:carrington@geoengineers.com)

3301 C Street, Suite 200 A  
Sacramento, California 95816  
[www.geoengineers.com](http://www.geoengineers.com)

---

Confidentiality: This message is confidential and intended solely for use of the individual or entity to whom it is addressed. If you are not the person for whom this message is intended, please delete it and notify me immediately, and please do not copy or send this message to anyone else.

**APPENDIX C:**  
**Detailed Subsurface Excavation Records**

## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

<b>Unit #</b>	<b>Date</b>	<b>Level cmbs</b>	<b>Cultural Materials</b>	<b>Soil Type</b>	<b>Munsell</b>	<b>Comments</b>
<b>STP 1-5</b>	2/21/2011	0-17	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		18-60	None	Moist/VFC/SL/DGB	10 YR 3/2	Little distinction between this layer and the previous one, except for color.
		60-78	None	Moist/VFC/SL/DYB	10 YR 3/4	Small charcoal flecks, not in situ. Rounded to sub-rounded cobbles, increasing in density. Cobbles 60% of matrix
		78-85	None	Moist/VFC/SL/DYB	10 YR 4/4	Gravelly sand with no soil matrix. Rounded to sub-rounded cobbles, very compact. Some large cobbles measuring over 18cm in width.
<b>STP 6-9</b>	2/21/2011	0-20	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		20-49	None	Moist/VFC/SL/DGB	10 YR 3/2	Little distinction between this layer and the previous one, except for color. Medium to large cobbles start in this layer and become increasingly more compact.
		49-77		Moist/VFC/SL/DYB	10 YR 3/4	Small charcoal flecks, not in situ. Rounded to sub-rounded cobbles, increasing in density. Cobbles 60% of matrix
		77-90	None	Moist/GS/DYB	10 YR 4/4	Gravelly sand with no soil matrix. Rounded to sub-rounded cobbles, very compact.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown

SPI = Small pebble inclusion, YB = Yellow brown, SC = Silty clay, GS = Gravelly Sand, DYB = Dark yellow brown

## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

<b>Unit #</b>	<b>Date</b>	<b>Level cmb</b>	<b>Cultural Materials</b>	<b>Soil Type</b>	<b>Munsell</b>	<b>Comments</b>
<b>STP 10 - 12</b>	2/21/2011	0-18	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		20-90	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, except for color. Medium to large cobbles start in this layer and become increasingly more compact.
		90-110	None	Moist/GS/DGB	2.5Y 4/2	Rounded to sub-rounded cobbles, very compact and increased density.
<b>STP 13 - 16</b>	2/21/2011	0-40	None	Moist/SL/VDB	10 YR 2/3	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		40-60	None	Moist/SL/DGB	10 YR 3/2	Very high in organic matter content, has mellow, sooty feel; gravelly sandy loam with larger cobbles appearing around 45-49cmb than decreasing by 60cmb.
		60-85	None	Moist/GS/OB	2.5 Y 5/3	Gravelly sand with no soil matrix. More sand; single grained; loose, than cobbles. Cobbles are rounded to sub-rounded and low density.
<b>STP 17 - 19</b>	2/22/2011	0-70	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		70-90	None	Moist/GS/DYB	10 YR 4/6	Gravelly sand with no soil matrix. Rounded to sub-rounded cobbles, very compact.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown

SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

<b>Unit #</b>	<b>Date</b>	<b>Level cmbs</b>	<b>Cultural Materials</b>	<b>Soil Type</b>	<b>Munsell</b>	<b>Comments</b>
<b>STP 20-22</b>	2/22/2011	0-45	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		45-80	None	Moist/GS/DYB	10 YR 4/6	Gravelly sand with no soil matrix. Rounded to sub-rounded cobbles, very compact.
<b>STP 23-27</b>	2/22/2011	0-60	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		60-80	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. Rounded to sub-rounded cobbles, very compact.
<b>*STP 27-36</b>	2/22/2011	0-25	Yes	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		25-50	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with few rounded to sub-rounded cobbles.
<b>STP 37-44</b>	2/23/2011	0-70	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		70-90	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 45</b>	2/23/2011	0-40	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		40-50	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown

SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

**\*Note:** STPs 28-35 were placed within the recorded location of Site 45PI66 (Methodist Episcopal Mission). One piece of fragmented red brick was located at 20cmbs in STP 28. A second red brick fragment was located at ground surface in STP 35.

## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

<b>Unit #</b>	<b>Date</b>	<b>Level cmbs</b>	<b>Cultural Materials</b>	<b>Soil Type</b>	<b>Munsell</b>	<b>Comments</b>
<b>STP 46-51</b>	2/25/2011	0-60	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		60-70	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 52-52</b>	2/25/2011	0-70	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		70-80	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 54</b>	2/25/2011	0-25	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		25-35	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 55-57</b>	2/25/2011	0-40	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		40-60	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 58</b>	2/25/2011	0-110	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		110-120	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown

SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

**Date: August 26, 2010**

<b>Unit #</b>	<b>Date</b>	<b>Level cmbs</b>	<b>Cultural Materials</b>	<b>Soil Type</b>	<b>Munsell</b>	<b>Comments</b>
<b>STP 59-60</b>	2/25/2011	0-40	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		40-60	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 61</b>	2/25/2011	0-35	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		35-55	None	Moist/GS/DYB	10 YR 4/6	Gravelly sand with no soil matrix. Rounded to sub-rounded cobbles, very compact.
		55-110	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		110-130	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 62</b>	2/25/2011	0-40	None	Moist/VFC/SL/DGB	10 YR 3/2	This layer is typically seen in the second horizon, with the darker (10 YR 2/2) high in organic matter overlying it. No signs of mixing in the stratigraphy.
		40-120	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		120-130	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 63-65</b>	2/25/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-70	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

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## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

<b>Unit #</b>		<b>Level cmb</b>	<b>Cultural Materials</b>	<b>Soil Type</b>	<b>Munsell</b>	<b>Comments</b>
<b>STP 66-70</b>	2/26/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-70	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 71-72</b>	2/26/2011	0-70	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		70-90	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 73-75</b>	2/26/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-70	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 76</b>	2/26/2011	0-70	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		70-90	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown

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## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

<b>Unit #</b>		<b>Level cmbs</b>	<b>Cultural Materials</b>	<b>Soil Type</b>	<b>Munsell</b>	<b>Comments</b>
<b>STP 77</b>	2/26/2011	0-22	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		22-60	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, except for color. Medium to large cobbles start in this layer and become increasingly more compact.
		60-75	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>STP 78-80</b>	2/26/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-65	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 81-83</b>	2/26/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-70	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 84-85</b>	2/26/2011	0-35	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		35-45	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown

SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

<b>Unit #</b>	<b>Date</b>	<b>Level cmb</b>	<b>Cultural Materials</b>	<b>Soil Type</b>	<b>Munsell</b>	<b>Comments</b>
<b>STP 86-88</b>	2/26/2011	0-60	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		60-80	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 89</b>	2/26/2011	0-110	None	Moist/SL/VFC/B	7.5 Yr 4/4	Weak fine granular structure; soft, very friable, nonsticky and nonplastic, sooty feel, no cobbles or pebbles. This layer appears to be imported soil. The stratigraphy is uninterrupted until you reach 110 cmbs, where the typical underlying horizon appears. The typical upper horizon; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam appears to have been removed and imported soil placed. This STP was placed near the (66 feet) bridge abutment and could be that more stable soil was imported for the approach to the narrow-gauge bridge.
		110-130	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 90</b>	2/28/2011	0-15	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		15-40	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		40-50	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown

SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

<b>Unit #</b>	<b>Date</b>	<b>Level cmbs</b>	<b>Cultural Materials</b>	<b>Soil Type</b>	<b>Munsell</b>	<b>Comments</b>
<b>STP 91</b>	2/28/2011	0-7	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		7-25	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 92-95</b>	2/28/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-70	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 96</b>	2/28/2011	0-40	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		40-50	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, except for color. Medium to large cobbles start in this layer and become increasingly more compact.
		50-60	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>STP 97-98</b>	2/28/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-70	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown

SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

<b>Unit #</b>	<b>Date</b>	<b>Level cmbs</b>	<b>Cultural Materials</b>	<b>Soil Type</b>	<b>Munsell</b>	<b>Comments</b>
<b>STP 99</b>	2/28/2011	0-10	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		10-30	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 100-101</b>	2/28/2011	0-60	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		60-75	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 102</b>	2/28/2011	0-45	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		45-60	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, except for color. Medium to large cobbles start in this layer and become increasingly more compact.
		60-75	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>STP 103</b>	3/1/2011	0-20	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		20-30	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown

SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

<b>Unit #</b>	<b>Date</b>	<b>Level cmb</b>	<b>Cultural Materials</b>	<b>Soil Type</b>	<b>Munsell</b>	<b>Comments</b>
<b>STP 104</b>	3/1/2011	0-5	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		5-20	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 105</b>	3/1/2011	0-30	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		30-45	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		45-60	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>STP 106</b>	3/1/2011	0-60	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		60-70	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		70-80	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown

SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

<b>Unit #</b>	<b>Date</b>	<b>Level cmbs</b>	<b>Cultural Materials</b>	<b>Soil Type</b>	<b>Munsell</b>	<b>Comments</b>
<b>STP 107-110</b>	3/1/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-65	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 111</b>	3/1/2011	0-65	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		65-80	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, except for color. Medium to large cobbles start in this layer and become increasingly more compact.
		80-90	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>STP 112</b>	3/1/2011	0-30	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		30-45	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles

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## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

<b>Unit #</b>	<b>Date</b>	<b>Level cmb</b>	<b>Cultural Materials</b>	<b>Soil Type</b>	<b>Munsell</b>	<b>Comments</b>
<b>STP 113</b>	3/1/2011	0-25	None	Moist/GS/DG	2.5 Y 3.1	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		25-70	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		70-85	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 114</b>	3/1/2011	0-60	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		60-75	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		75-85	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>STP 115</b>	3/1/2011	0-200	Yes	Moist/GS/DG	2.5 Y 3.1	This unit is completely mixed (photo taken #58) the matrix resembles horizon 1 with Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam however, there is no stratigraphic distinction between 0-200 cmbs. A metal artifact was located at 160 cmbs. The artifact is a flat metal bar with 4-bolts protruding from one side.

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SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown, DG = Dark Gray

## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

<b>Unit #</b>	<b>Date</b>	<b>Level cmb</b>	<b>Cultural Materials</b>	<b>Soil Type</b>	<b>Munsell</b>	<b>Comments</b>
<b>STP 116</b>	3/2/2011	0-25	None	Moist/GS/DG	2.5 Y 3.1	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		25-55	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		55-75	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 117-119</b>	3/2/2011	0-10	None	Moist/GS/DG	2.5 Y 3.1	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		10-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-65	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 120</b>		0-20	None	Moist/VFC/SL/DYB	10 YR 3/4	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam. Medium to small cobbles rounded and subrounded. Small flecks of charcoal, indicative of a grass fire in the area.
		20-80	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		80-95	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

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SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
<b>STP 121-125</b>	3/2/2011	0-60	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam. Small flecks of charcoal, indicative of a grass fire in the area.
		60-80	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>GTE 1</b>	3/3/2011	0-30	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		30-60	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, except for color. Medium to large cobbles start in this layer and become increasingly more compact.
		60-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>GTE 2</b>	3/3/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-305	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown

SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown, GTE = Geotechnical Excavation

## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

Unit #	Date	Level cmb	Cultural Materials	Soil Type	Munsell	Comments
<b>GTE 3</b>	3/3/2011	0-40	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		40-80	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		80-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>GTE 4</b>	3/3/2011	0-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>GTE 5</b>	3/3/2011	0-40	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		40-50	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		50-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>GTE 6</b>	3/3/2011	0-60	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		60-305	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

## Subsurface Testing Record

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SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown, GTE = Geotechnical Excavation

**Project: DuPont Industrial Partners, LLC, Lot Y**      **Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
<b>GTE 7</b>	3/3/2011	0-55	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		55-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>GTE 8</b>	3/3/2011	0-90	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		90-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>GTE 9</b>	3/3/2011	0-250	None	Moist/SL/VDB		This unit is completely mixed. There is a small (20cmbs) layer of sand on the surface and the rest is a mix between horizon 1 (10 YR 2/2) and sand. Very little cobbles. It appears to be fill material. This unit is in close proximity to a hot spot cleared for soil contamination.
<b>GTE 10</b>	3/3/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-305	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown

SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown, GTE = Geotechnical Excavation

## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
<b>GTE 11</b>	3/3/2011	0-5	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		5-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>GTE 12-13</b>	3/4/2011	0-65	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		65-75	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		75-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>GTE 14</b>	3/4/2011	0-5	None	Moist/VFC/SL/DYB	10 YR 3/4	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam. Small to medium cobble and become increasingly more compact.
		5-244	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles. Water hit at 244cmbs.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown

SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown, GTE = Geotechnical Excavation

## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

<b>Unit #</b>	<b>Date</b>	<b>Level cmb</b>	<b>Cultural Materials</b>	<b>Soil Type</b>	<b>Munsell</b>	<b>Comments</b>
<b>GTE 15</b>	3/4/2011	0-65	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		65-80	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, except for color. Medium to large cobbles start in this layer and become increasingly more compact.
		80-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>GTE 16-17</b>	3/4/2011	0-65	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		65-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>GTE 18-19</b>	3/4/2011	0-45	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		45-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles. Water hit at 244cmb.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown

SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown, GTE = Geotechnical Excavation

## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
<b>GTE 20</b>	3/4/2011	0-3	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		3-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>GTE 21</b>	3/4/2011	0-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>GTE 22</b>		0-40	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		40-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown

SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown, GTE = Geotechnical Excavation

## Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y

Soils Photograph

Recorder: C. Arrington



Photograph 52. Showing horizon 1 (10 YR 2/2)



Photograph 53. Showing horizon 2 (10 YR 3/4)

## Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y

Soils Photograph

Recorder: C. Arrington



Photograph 44. Showing horizon 3 (2.5Y 4/4)



Photograph 61. Showing gray horizon (2.5 Y 3.1)  
Upper most layer in photograph

**APPENDIX D:**  
**Site and Isolate Record Forms**



# STATE OF WASHINGTON ARCHAEOLOGICAL SITE INVENTORY FORM

Smithsonian Number: PI01224

\*County: Pierce

\*Date: 7-19-2011 \*Compiler: C. Arrington

**Location Information Restrictions** (Yes/No/Unknown): No

## SITE DESIGNATION

**Site Name:** Narrow gauge railroad and berm

**Field/ Temporary ID:** GEO-RR10 (Update)

**\*Site Type** (Refer to the DAHP Survey and Inventory Guidelines Page 19): Historic Railroad Properties

## SITE LOCATION

**\*USGS Quad Map Name:** Nisqually

**\*Legal Description:** T19N R 1 E/W: E Section(s): 26

Quarter Section(s): NENW

**\*UTM:** Zone 10 Easting 526801 Northing 5217214

**Latitude:**                   **Longitude:**                   **Elevation (FT/M):** 220ft

**Other Maps:**                   **Type:**

**Scale:**                   **Source:**

**Drainage, Major:** Sequalitchew Creek           **Drainage, Minor:**           **River Mile:**

**Aspect:**                   **Slope:** 1-3%

**\*Location Description** (General to Specific): This site is located on the north side of Sequalitchew Creek, northwest of the Town of DuPont. It is situated east of the old DuPont works property. The area is disturbed and is dominated by grasses and brushy plants. The project area is situated within the Puget Trough physiographic province (Franklin and Dyrness 1973) approximately 1 mile east of the southern part of Puget Sound shoreline. Sequalitchew Creek drains the Edmond's Marsh area about 1 mile east, and empties into Puget Sound approximately 1.5 miles to the northwest. The Puget Trough is a basin that lies between the Coast Range to the west and the Cascade Range to the east.

**Approach** (For Relocation Purposes): From I-5 take the DuPont Center Drive exit (north) approximately 1.5 miles to Power Road, turning left, to the intersection of a gravel road (205 feet). The isolate is located on the north side of the gravel road, 736feet from the intersection of Power Road (at the end of gravel just before the chain-link fence) and approximately 22 feet due north of the gravel road.

**SITE DESCRIPTION****\*Narrative Description:**

This site is an extension of site GEO-RR10 recorded on September 28, 2010 for Creekside DuPont Partners. The site is a non-functional narrow-gauge railroad track situated on an earthen berm bisecting the eastern edge of the project area. The earthen berm is approximately 20 inches in height and roughly 20 feet in width. The narrow gauge tracks extend 207 feet east from the eastern project area boundary (chain link fence) running due west. The site is covered with lichen, and trees growing through the tracks and the berm. Within the project area, the tracks end at an earthen mound that appears to have been dug immediately adjacent to the southeast side of the tracks (burrow pit). The narrow-gauge track and berm continue to the east beneath a chain-link fence for a distance of 98 feet beyond the project area. The short abandoned track and berm segment within the project area are attributed to construction by the DuPont Powder Works; the narrow-gauge railroad was used to transport their products during the Old Town period (1906-1920s). There was no evidence of artifacts or cultural deposits in association with the tracks or berm, and this site is not recommended eligible for listing on the NRHP or Washington Heritage Register (WHR). The eastern end of the spur was truncated presumably after DuPont Powder Works closed in 1976.

**\*Site Type** (Refer to the DAHP Survey and Inventory Guidelines Page 19): Historic Railroad Properties

**\*Site Dimensions**

\*Length: 207 feet \*Direction: E/W x \*Width: 20 feet \*Direction: N/S

\*Method of Horizontal Measurement: GPS

\*Depth: Surface \* Method of Vertical Measurement: GPS

**\*\*Vegetation (On Site):** Mostly grasses and scotch broom

**Local:** Douglas fir, Pacific madrone, red alder, elderberry, sword fern

**Local:** Glacial Plain

**Water Resources (Type):** Sequalitchew Creek **Distance:** 426 feet SW **Permanence:** year round

**\*Method of Collection(s):** No materials collected

**CULTURAL MATERIALS AND FEATURES****\*Narrative Description:**

This site was originally recorded by Arrington during survey in 2010 of the 12.8-acre property (known as Lot X) adjacent to the eastern edge of Lot Y (Sikes and Arrington 2010). It is a non-functional segment of a narrow-gauge railroad track situated on an earthen berm; it extends into both Lots X and Y beneath a chain-link fence marking the property boundaries. The track and berm bisect the eastern edge of the Lot Y project area. The earthen berm is approximately 20 inches high and 20 feet wide. The narrow gauge track extends 207 feet west from the eastern project area boundary. The site is covered with forest duff, lichen, and scotch broom. The narrow-gauge track and berm continue east into Lot X beneath the chain-link fence for approximately 98 feet.

The short abandoned track and berm segment are attributed to construction by the DuPont Powder Works; the narrow-gauge railroad was used to transport their products during the Old Town period (1906-1920s). This site is recommended ineligible for listing on the NRHP or WHR. The segment is in poor condition with no evidence of associated artifacts or cultural deposits and has no potential to yield additional information. The eastern end of the spur was truncated presumably after DuPont Powder Works closed in 1976.

**\*Method of Collection(s):** None**\*Location of Artifacts (Temporary/Permanent):** N/A**SITE AGE****\*Component:** \*Dates: 1906-1920s      **\*Dating Method:****Phase:**      **Basis for Phase Designation:**

The short abandoned track and berm segment within the project area are attributed to construction by the DuPont Powder Works; the narrow-gauge railroad was used to transport their products during the Old Town period (1906-1920s).

**SITE RECORDERS****Observed by:** C. Arrington and Pete Morris**\*Date Recorded:** February 17, 2011**\*Recorded by (Professional Archaeologist):** Cindy Arrington**\*Affiliation:** Parus Consulting, Inc.**\*Affiliation Phone Number:** 916-782-5818**\*Affiliation Address:** 1508 Eureka Road, Suite 170, Roseville, CA 95661**\*Affiliation E-mail:** cindy@parusconsulting.com**Date Revisited:****Revisited By:****SITE HISTORY****Previous Work (Done on Archaeological Site):**

Year	Author(s)	Report Title	Proximity to project
1977	Onat, A.R., Lee A. Bennett, and Timothy Riorda	Cultural Resources Survey: DuPont Site, Volume I Survey of Archaeological and Ethnographical Resources at the DuPont Site	Within and near project area
1977	Stratton, David H., and Glen W Lindeman	Cultural Resource Survey, DuPont Site, Volume II: Survey of Historical Resources at the DuPont Site.	Within and near project area
1989	Welch, Jeanne	A Cultural Overview and Comprehensive Management Plan for the DuPont Property, Pierce County, Washington	Within and near project area
1991	Moura, Guy F.	Missions, War Games, and Railroad Dumps: 1989 Explorations and Excavations, Northwest Landing, DuPont, Washington	Within project area
2000	Daugherty, Richard, and Mary Condon	Archaeological Monitoring of the "Hot Spot" Removal Program, the Hazardous Waste Stockpile Areas, and Sand Stockpile Laydown Areas at the Former DuPont Works Site, DuPont, Washington	Within project area
2001	Daugherty, Richard, and Mary Condon	An Update on the Archaeological Status of Sites 45PI63 (A Trash Dump Located Along a Railroad Spur), 45PI64 (Burning Ground Dump), 45PI66 (Methodist Episcopal Mission), and 45PI455 (Part of the 9 <sup>th</sup> Cavalry Bivouac Area)	Within and near project area
2005	Wessen, Gary, Cathy Bialas and Gail Thompson	Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near project area
2008	Wessen, Gary, Cathy Bialas, Derek Shaw and Gail Thompson	Revised Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near project area

**LAND OWNERSHIP**

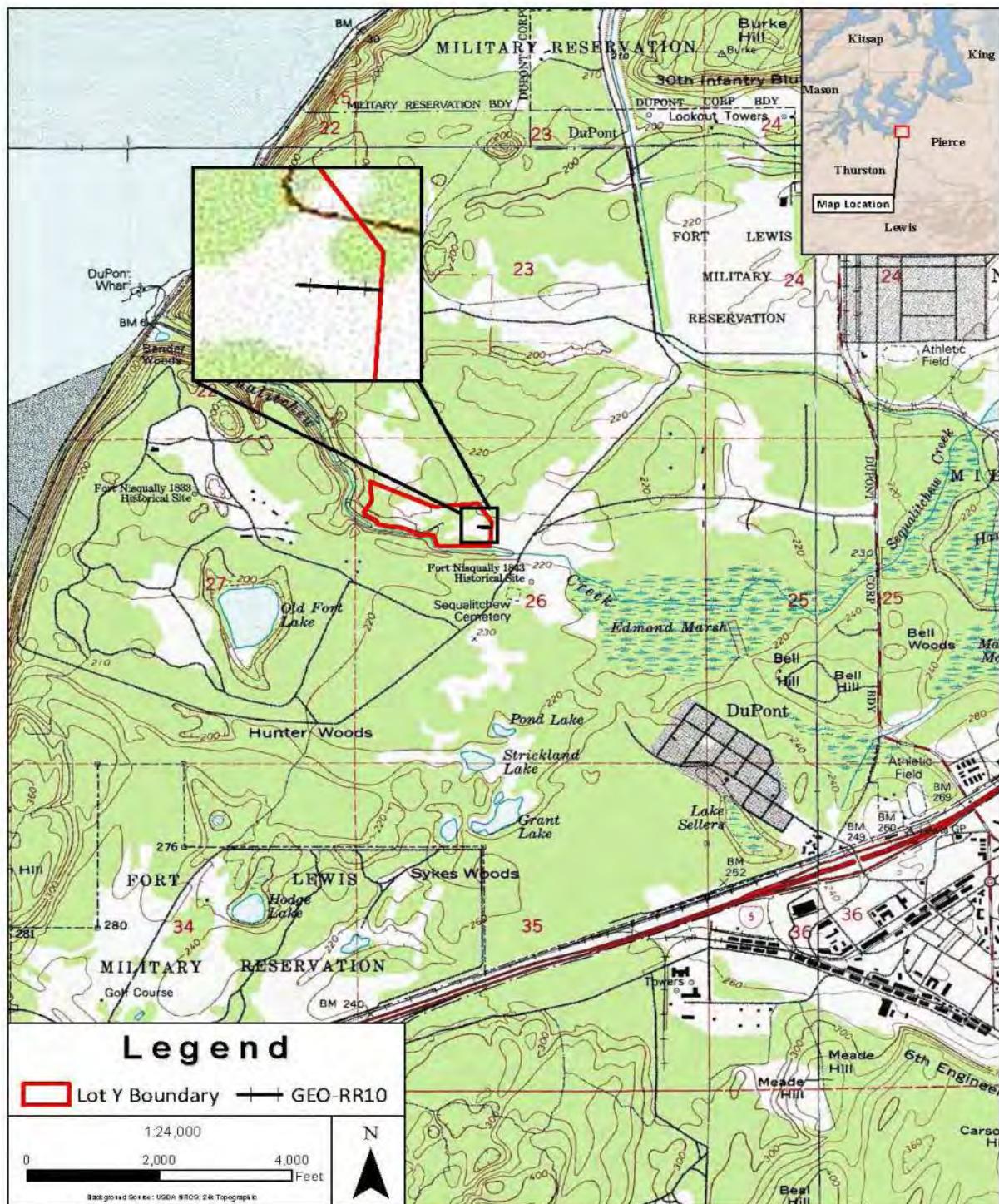
\*Owner: DuPont Industrial Partners, LLC  
Address: 1201 Pacific Avenue, Suite 1501  
Tacoma, WA 98402

\*Tax Lot/ Parcel No:

**RESEARCH REFERENCES**

\*Items/Documents Used In Research (Specify): 1973 Franklin, Jerry F., and C. T. Dyrness  
*Natural Vegetation of Oregon and Washington*. Pacific Northwest Forest and Range Experiment Station, U.S. Forest Service, Portland, Oregon.

USGS MAP



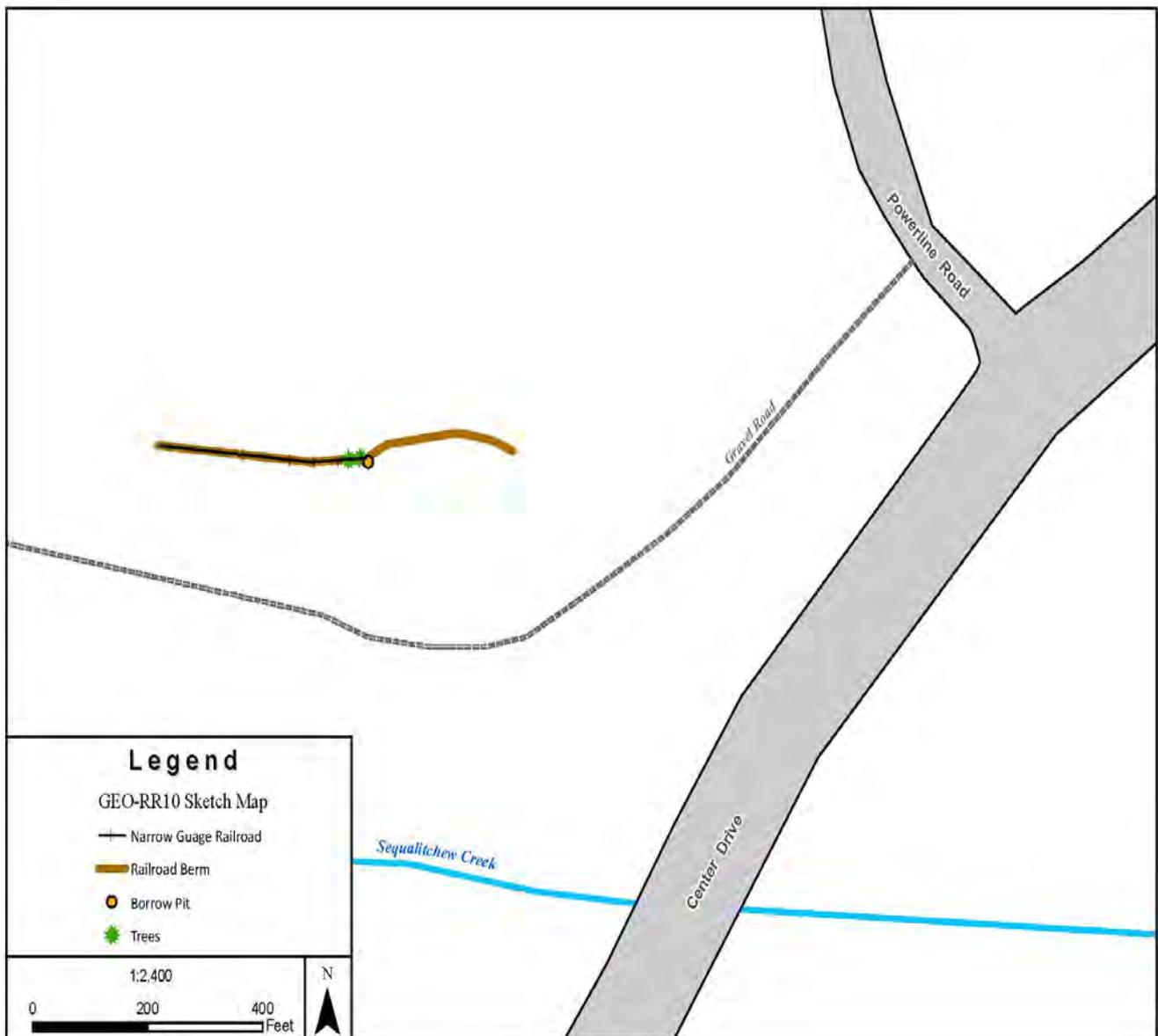
Quad Name: Nisqually PR 1981

T19N, R 1E, Section 26

DuPont Lot Y: GEO-RR10 Location Map

**PARUS**  
CONSULTING, INC.

## SKETCH MAP



Quad Name: Nisqually PR 1991  
T19N, R. 1E, Section 2E  
GEO-RR10 Sketch Map



**PHOTOGRAPH(S)**



Figure 1: Geo RR10 extension (view to east)



# STATE OF WASHINGTON ARCHAEOLOGICAL SITE INVENTORY FORM

**Smithsonian Number:** PI01225

**\*County:** Pierce

**\*Date:** 7-19-2011    **\*Compiler:** C. Arrington

**Location Information Restrictions** (Yes/No/Unknown): No

## SITE DESIGNATION

**Site Name:** Concrete Platform

**Field/ Temporary ID:** Parus-01-11

**\*Site Type** (Refer to the DAHP Survey and Inventory Guidelines Page 19): Historic Railroad Properties

## SITE LOCATION

**\*USGS Quad Map Name:** Nisqually

**\*Legal Description:** T19N R 1 E/W: E Section(s): 26

Quarter Section(s): NENW

**\*UTM:** Zone 10 Easting 526780 Northing 5217203

**Latitude:**                    **Longitude:**                    **Elevation (FT/M):** 220ft

**Other Maps:**                    **Type:**

**Scale:**                    **Source:**

**Drainage, Major:** Sequalitchew Creek                    **Drainage, Minor:**                    **River Mile:**

**Aspect:**                    **Slope:** 1-3%

**\*Location Description** (General to Specific): This site is located on the north side of Sequalitchew Creek, northwest of the Town of DuPont. It is situated east of the old DuPont works property. The area is disturbed and is dominated by grasses and brushy plants. The project area is situated within the Puget Trough physiographic province (Franklin and Dyrness 1973) approximately 1 mile east of the southern part of Puget Sound shoreline. Sequalitchew Creek drains the Edmond's Marsh area about 1 mile east, and empties into Puget Sound approximately 1.5 miles to the northwest. The Puget Trough is a basin that lies between the Coast Range to the west and the Cascade Range to the east.

**Approach** (For Relocation Purposes): From I-5 take the DuPont Center Drive exit (north) approximately 1.5 miles to Power Road, turning left, to the intersection of a gravel road (205 feet). The isolate is located on the north side of the gravel road, 979 feet from the intersection of Power Road and approximately 76 feet due north of the gravel road.

**SITE DESCRIPTION****\*Narrative Description:**

The loading platform is located 233 feet west of the eastern boundary of the project area, 76 feet due north of the existing gravel road. The platform is situated in hot spot #3 where the area was cleared of topsoil, using a mechanical backhoe in 2001 due to soil contamination and remediation efforts.

Vegetation within the site area consists of open second growth conifer forest dominated by Douglas fir, sword fern, and scotch broom, and includes red alder, elderberry, and grasses. Visibility on the surrounding ground surface is poor ranging from 10-30 percent.

**\*Site Type** (Refer to the DAHP Survey and Inventory Guidelines Page 19): Historic Railroad Properties**\*Site Dimensions**

\*Length: 16 feet \*Direction: E/W x \*Width: 16 feet \*Direction: N/S

\*Method of Horizontal Measurement: Tapped

\*Depth: 6' 5" above ground surface \* Method of Vertical Measurement: Tapped

**\*\*Vegetation (On Site):** Mostly grasses and scotch broom

**Local:** Douglas fir, Pacific madrone, red alder, elderberry, sword fern

**Local:** Glacial Plain

**Water Resources (Type):** Sequalitchew Creek **Distance:** 384 feet south **Permanence:** year round

**\*Method of Collection(s):** No materials collected

**CULTURAL MATERIALS AND FEATURES**

**\*Narrative Description:**

A concrete loading platform is located approximately where the standard-gauge and one of the narrow-gauge tracks previously crossed near the eastern edge of Lot Y. The platform is visible on satellite imagery, but was previously unrecorded. During the functional period of the platform, it likely was used for loading or unloading materials onto DuPont Powder Works trains that would have moved east to west and north to south past the platform.

The platform is primarily concrete, with a steel railing as a perimeter of the upper platform surface. The platform is 192 inches square and 77 inches tall. The surface perimeter has a 3-inch concrete lip with occasional breaks to permit loading access. There is an arrangement of 2-inch by 6-inch wood boards bolted to the interior surface of the concrete lip, with a steel railing situated along the perimeter lip of the platform. The railing is painted yellow and is 39.5 inches tall, with a lower bar and upper bar. The lower bar is 19.5 inches high, and the upper bar is 39 inches high. There are openings in the rail with steel chains stretched across on the south and east sides of the platform; one opening is 55 inches wide, and the other is 51 inches wide.

On the north side of the platform there is a 30-inch wide opening that appears to be a person-access stepping platform, with vertical handrails and a swinging safety bar (non-operational). On the east of the platform is a small debris pile consisting of heavy-gauge sheet metal, milled lumber, crushed pipe (1.5-inch diameter), and steel railing segment with chain. The platform is built with well sorted aggregate, form poured concrete. It does not appear on the very detailed 1955 map drawn by E. Davies. Locals recall the platform was not built until the early 1960s and then it was seldom used (personal communication, Fred Foreman). This site has no potential to yield additional information and is recommended ineligible for listing on the NRHP or WHR.

**\*Method of Collection(s):** None

**\*Location of Artifacts (Temporary/Permanent):** N/A

**SITE AGE**

**\*Component:**

**\*Dates:** 1960s

**\*Dating Method:**

**Phase:**

**Basis for Phase Designation:**

**ARCHAEOLOGICAL SITE INVENTORY FORM**Smithsonian Number: PI01225

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**SITE RECORDERS****Observed by:** C. Arrington and Pete Morris**\*Date Recorded:** February 17, 2011**\*Recorded by (Professional Archaeologist):** Cindy Arrington**\*Affiliation:** Parus Consulting, Inc.**\*Affiliation Phone Number:** 916-782-5818**\*Affiliation Address:** 1508 Eureka Road, Suite 170, Roseville, CA 95661**\*Affiliation E-mail:** cindy@parusconsulting.com**Date Revisited:****Revisited By:****SITE HISTORY****Previous Work (Done on Archaeological Site):**

Year	Author(s)	Report Title	Proximity to project
1977	Onat, A.R., Lee A. Bennett, and Timothy Riordan	Cultural Resources Survey: DuPont Site, Volume I Survey of Archaeological and Ethnographical Resources at the DuPont Site	Within and near project area
1977	Stratton, David H., and Glen W Lindeman	Cultural Resource Survey, DuPont Site, Volume II: Survey of Historical Resources at the DuPont Site.	Within and near project area
1989	Welch, Jeanne	A Cultural Overview and Comprehensive Management Plan for the DuPont Property, Pierce County, Washington	Within and near project area
1991	Moura, Guy F.	Missions, War Games, and Railroad Dumps: 1989 Explorations and Excavations, Northwest Landing, DuPont, Washington	Within project area
2000	Daugherty, Richard, and Mary Condon	Archaeological Monitoring of the "Hot Spot" Removal Program, the Hazardous Waste Stockpile Areas, and Sand Stockpile Laydown Areas at the Former DuPont Works Site, DuPont, Washington	Within project area
2001	Daugherty, Richard, and Mary Condon	An Update on the Archaeological Status of Sites 45PI63 (A Trash Dump Located Along a Railroad Spur), 45PI64 (Burning Ground Dump), 45PI66 (Methodist Episcopal Mission), and 45PI455 (Part of the 9 <sup>th</sup> Cavalry Bivouac Area)	Within and near project area
2005	Wessen, Gary, Cathy Bialas and Gail Thompson	Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near project area
2008	Wessen, Gary, Cathy Bialas, Derek Shaw and Gail Thompson	Revised Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near project area

**ARCHAEOLOGICAL SITE INVENTORY FORM**Smithsonian Number: PI01225

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**LAND OWNERSHIP**

\*Owner: DuPont Industrial Partners, LLC  
Address: 1201 Pacific Avenue, Suite 1501  
Tacoma, WA 98402

\*Tax Lot/ Parcel No:

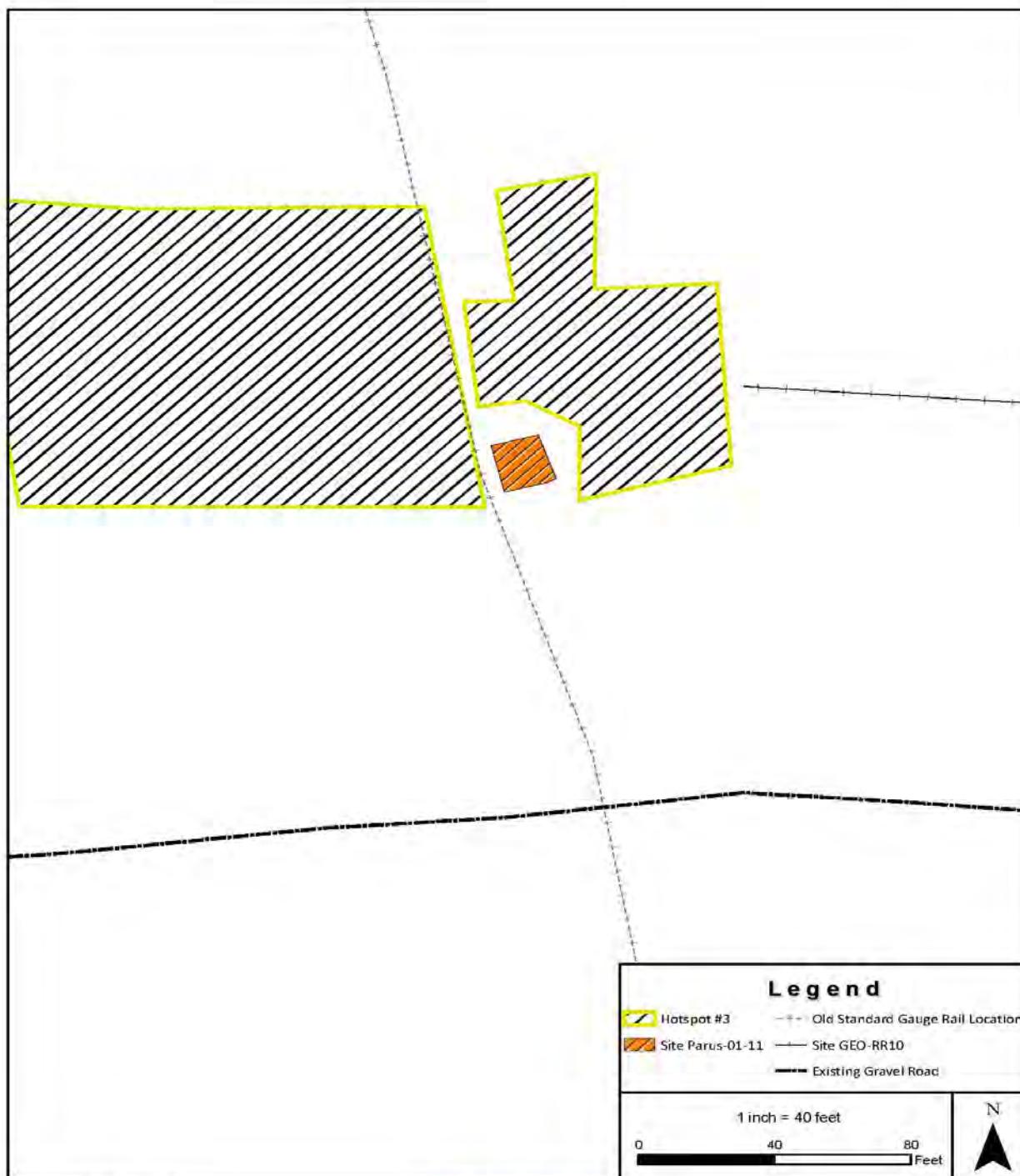
**RESEARCH REFERENCES**

\*Items/Documents Used In Research (Specify): 1973 Franklin, Jerry F., and C. T. Dyrness  
*Natural Vegetation of Oregon and Washington*. Pacific Northwest Forest and Range Experiment Station, U.S. Forest Service, Portland, Oregon.

## USGS MAP



## SKETCH MAP



Quad Name: Nisqually PR 1981  
T19N, R 1E, Section 26  
DuPont Lot Y: Parus-01-11 Sketch Map



**PHOTOGRAPH(S)****Figure 1: East side of platform (view to west)****Figure 2: North side of platform (view to southwest)**

**PHOTOGRAPH(S)**

**Figure 3: West side of platform (view to northeast)**



**Figure 4: Debris pile on east side of platform (view to north)**



# STATE OF WASHINGTON ARCHAEOLOGICAL SITE INVENTORY FORM

Smithsonian Number: PI01226

\*County: Pierce

\*Date: 7-19-2011 \*Compiler: C. Arrington

**Location Information Restrictions** (Yes/No/Unknown): No

## SITE DESIGNATION

**Site Name:** Bridge Abutment – Narrow-Gauge Railroad

**Field/ Temporary ID:** Parus-02-11

**\*Site Type** (Refer to the DAHP Survey and Inventory Guidelines Page 19): Historic Railroad Properties

## SITE LOCATION

**\*USGS Quad Map Name:** Nisqually

**\*Legal Description:** T19N R 1 E/W: E Section(s): 26

Quarter Section(s): SWNW

**\*UTM:** Zone 10 Easting 526592 Northing 5217123

**Latitude:**                   **Longitude:**                   **Elevation (FT/M):** 222ft

**Other Maps:**                   **Type:**

**Scale:**                   **Source:**

**Drainage, Major:** Sequalitchew Creek                   **Drainage, Minor:**                   **River Mile:**

**Aspect:**                   **Slope:** 1-3%

**\*Location Description** (General to Specific): This site is located on the north side of Sequalitchew Creek, northwest of the Town of DuPont. It is situated east of the old DuPont works property. The area is disturbed and is dominated by grasses and brushy plants. The project area is situated within the Puget Trough physiographic province (Franklin and Dyrness 1973) approximately 1 mile east of the southern part of Puget Sound shoreline. Sequalitchew Creek drains the Edmond's Marsh area about 1 mile east, and empties into Puget Sound approximately 1.5 miles to the northwest. The Puget Trough is a basin that lies between the Coast Range to the west and the Cascade Range to the east.

**Approach** (For Relocation Purposes): From I-5 take the DuPont Center Drive exit (north) approximately 1.5 miles to Power Road, turning left, to the intersection of a gravel road (205 feet). The site is located on the south side of the gravel road, 1,348 feet from the intersection of Power Road and approximately 467 feet due south of the gravel road.

**SITE DESCRIPTION****\*Narrative Description:**

The site, a narrow-gauge railroad bridge (depicted on the E. Davies 1955 map), is located on the north bank of Sequalitchew Creek, 467 feet due south of the gravel road. There are two additional abutments, both an upper and lower, on the south bank of the creek and look to be identical to those located on the north bank.

The abutments are covered with moss, and is surrounded by decomposing forest duff and vegetation, including ferns, conifers, deciduous trees, and grasses. Visibility on the surrounding ground surface is poor ranging from 0-10 percent.

**\*Site Type** (Refer to the DAHP Survey and Inventory Guidelines Page 19): Historic Railroad Properties**\*Site Dimensions**

Upper abutment \*Length: 128 inches \*Direction: E/W x \*Width: 12.5 inches \*Direction: E/W

Lower abutment \*Length: 150 inches \*Direction: E/W x \*Width: 12 inches \*Direction: E/W

\*Method of Horizontal Measurement: Tapped

\*Depth: 51 inches for upper and 32 inches for lower above ground surface

\* Method of Vertical Measurement: Tapped

**\*\*Vegetation (On Site):** The abutment is covered with moss, and is surrounded by decomposing forest duff and vegetation, including ferns, conifers, deciduous trees, and grasses.

**Local:** Douglas fir, Pacific madrone, red alder, elderberry, sword fern

**Local:** Glacial Plain

**Water Resources (Type):** Sequalitchew Creek **Distance:** 35 feet south **Permanence:** year round

**\*Method of Collection(s):** No materials collected

**CULTURAL MATERIALS AND FEATURES****\*Narrative Description:**

This site is comprised of the remnants of a narrow-gauge railroad bridge that traversed Sequalitchew Creek from north to south. This bridge crossing is shown on the 1955 map drawn by E. Davies. The remains include two concrete abutments that have a 165-inch horizontal separation. Both abutments have a poured-form aggregate concrete construction, with a smooth finished top. The lower abutment is 150 inches long, 32 inches high from the ground, and 12 inches wide at the top. The upper abutment is 128 inches long, 51 inches high from the ground, with the base at 20 inches wide, and the top of the abutment 12.5 inches wide. The abutments are covered with moss and are surrounded by decomposing forest duff and vegetation, including ferns, conifers, deciduous trees, and grasses.

The set of abutments is immediately outside of the Lot Y project area, and 35 feet north of Sequalitchew Creek. There are two pieces of milled lumber located between the abutments; they are each 6 by 6 inches, but vary in length. One piece is 45 inches long, and the other is 60 inches long. The longer piece is intact, and has a 5-inch by 8.5-inch metal cleat with spikes on one side. An identical set of concrete abutments is visible on the south side of the creek outside the project area.

This bridge was the only narrow-gauge railroad bridge within the DuPont Powder Works to cross Sequalitchew Creek, and is shown on the 1955 map drawn by E. Davies. It was used for transport of material by train from the plant to the burning ground (later recorded as 45PI64) and then proceeding further north to the storage area (personal communication, Fred Foreman and Johanna Jones). The bridge was removed in the late 1990s. The remaining set of abutments has no potential to yield additional information and is recommended ineligible for listing on the NRHP or WHR.

**\*Method of Collection(s):** None**\*Location of Artifacts (Temporary/Permanent):** N/A**SITE AGE****\*Component:** **\*Dates:** 1906-1920s **\*Dating Method:****Phase:** **Basis for Phase Designation:**

The narrow-gauge bridge is attributed to construction by the DuPont Powder Works; the narrow-gauge railroad was used to transport their products during the Old Town period (1906-1920s).

**ARCHAEOLOGICAL SITE INVENTORY FORM**Smithsonian Number: PI01226

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**SITE RECORDERS****Observed by:** C. Arrington and P. Morris**\*Date Recorded:** February 17, 2011**\*Recorded by (Professional Archaeologist):** Cindy Arrington**\*Affiliation:** Parus Consulting, Inc.**\*Affiliation Phone Number:** 916-782-5818**\*Affiliation Address:** 1508 Eureka Road, Suite 170, Roseville, CA 95661**\*Affiliation E-mail:** cindy@parusconsulting.com**Date Revisited:****Revisited By:****SITE HISTORY****Previous Work (Done on Archaeological Site):**

Year	Author(s)	Report Title	Proximity to project
1977	Onat, A.R., Lee A. Bennett, and Timothy Riordan	Cultural Resources Survey: DuPont Site, Volume I Survey of Archaeological and Ethnographical Resources at the DuPont Site	Within and near project area
1977	Stratton, David H., and Glen W Lindeman	Cultural Resource Survey, DuPont Site, Volume II: Survey of Historical Resources at the DuPont Site.	Within and near project area
1989	Welch, Jeanne	A Cultural Overview and Comprehensive Management Plan for the DuPont Property, Pierce County, Washington	Within and near project area
1991	Moura, Guy F.	Missions, War Games, and Railroad Dumps: 1989 Explorations and Excavations, Northwest Landing, DuPont, Washington	Within project area
2000	Daugherty, Richard, and Mary Condon	Archaeological Monitoring of the "Hot Spot" Removal Program, the Hazardous Waste Stockpile Areas, and Sand Stockpile Laydown Areas at the Former DuPont Works Site, DuPont, Washington	Within project area
2001	Daugherty, Richard, and Mary Condon	An Update on the Archaeological Status of Sites 45PI63 (A Trash Dump Located Along a Railroad Spur), 45PI64 (Burning Ground Dump), 45PI66 (Methodist Episcopal Mission), and 45PI455 (Part of the 9 <sup>th</sup> Cavalry Bivouac Area)	Within and near project area
2005	Wessen, Gary, Cathy Bialas and Gail Thompson	Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near project area
2008	Wessen, Gary, Cathy Bialas, Derek Shaw and Gail Thompson	Revised Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near project area

**LAND OWNERSHIP**

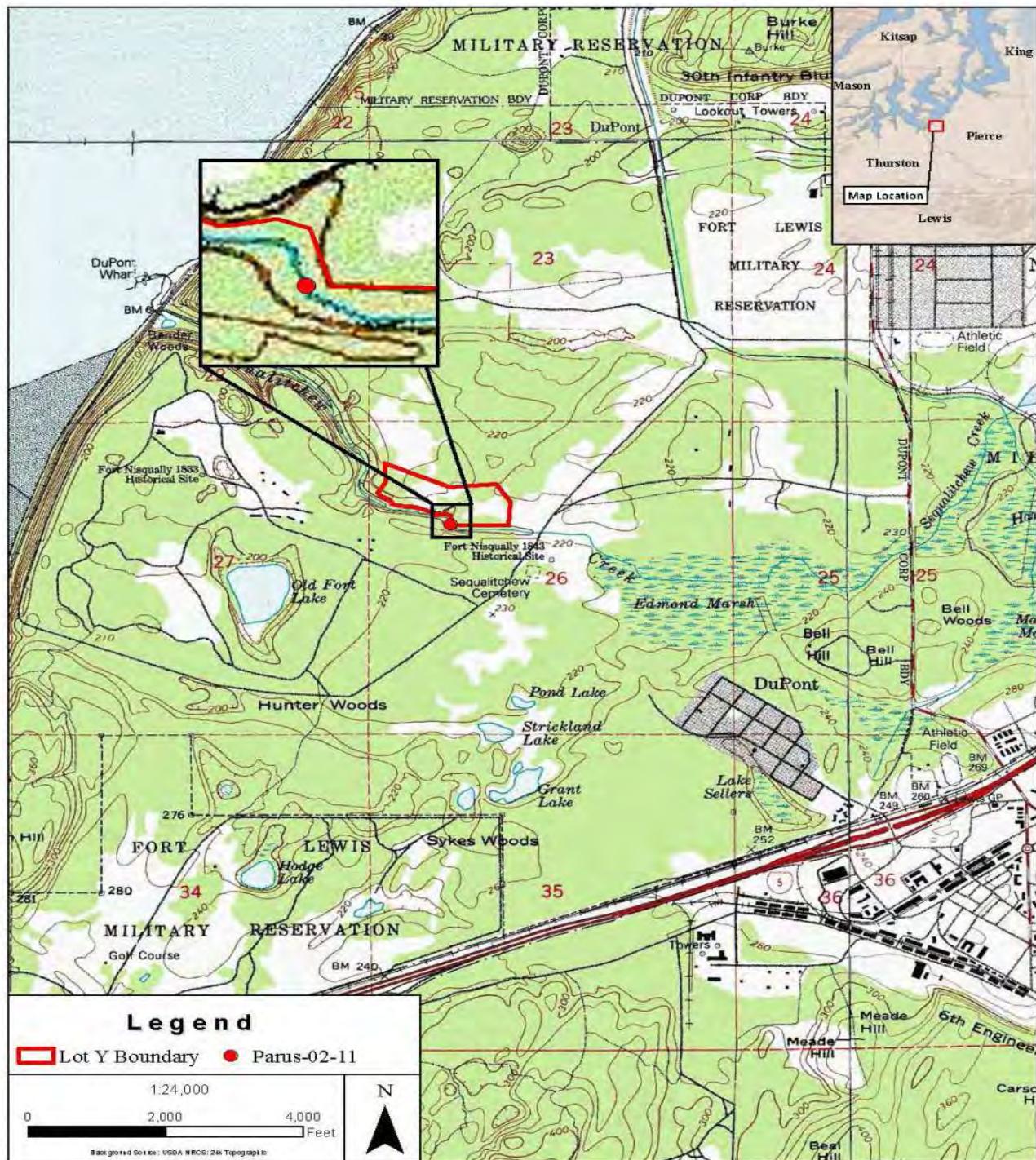
\*Owner: DuPont Industrial Partners, LLC  
Address: 1201 Pacific Avenue, Suite 1501  
Tacoma, WA 98402

\*Tax Lot/ Parcel No:

**RESEARCH REFERENCES**

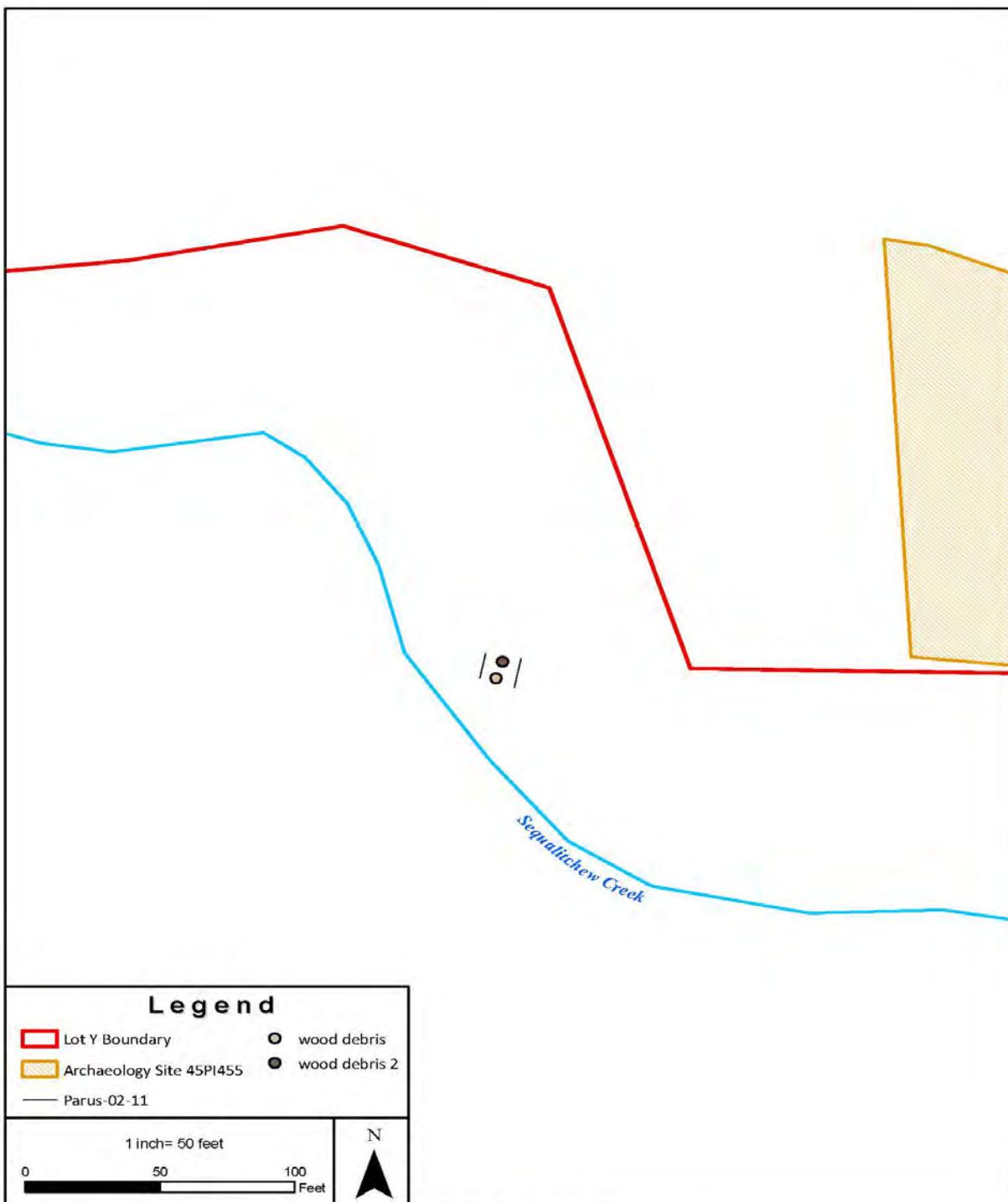
\*Items/Documents Used In Research (Specify): 1973 Franklin, Jerry F., and C. T. Dyrness  
*Natural Vegetation of Oregon and Washington*. Pacific Northwest Forest and Range Experiment Station, U.S. Forest Service, Portland, Oregon.

## USGS MAP



 **PARUS**  
CONSULTING, INC.

## SKETCH MAP



Quad Name: Nisqually PR 1981  
T19N, R.1E, Section 26  
DuPont Lot Y: Parus-02-11 Sketch Map



**PHOTOGRAPH(S)****Figure 1: Upper and lower abutments (view to north)****Figure 2: South face of lower abutment (view to north)**

**PHOTOGRAPH(S)****Figure 3: East side of upper abutment (view to west)**

**PHOTOGRAPH(S)****Figure 4: Wood debris near lower abutment (plan view)****Figure 5: Wood debris with metal cleat near lower abutment (plan view)**



# STATE OF WASHINGTON ARCHAEOLOGICAL ISOLATE INVENTORY FORM

Smithsonian Number: PI00064

\*County: Pierce

\*Date: 2-17-2011 \*Compiler: C. Arrington

## ISOLATE DESIGNATION

**Isolate Name:** Kerosene Can

**Field/ Temporary ID:** Parus Isolate #1

**\*Site Type** (Refer to the DAHP Survey and Inventory Guidelines Pages 19-23): Historic isolate

## ISOLATE LOCATION

**\*USGS Quad Map Name:** Nisqually

**\*Legal Description:** T19N R 1 E/W: E Section(s): 26

Quarter Section(s): NWNW

**\*UTM:** Zone 10 Easting 526413 Northing 5217323

**Latitude:**                   **Longitude:**                   **Elevation (FT/M):** 220ft

**Other Maps:**                   **Type:**

**Scale:**                   **Source:**

**Drainage, Major:** Sequalitchew Creek           **Drainage, Minor:**           **River Mile:**

**Aspect:**                   **Slope:** 1-3%

**\*Location Description (General to Specific):** This isolate is located on the north side of Sequalitchew Creek, northwest of the Town of DuPont. It is situated east of the old DuPont works property. The area is disturbed and is dominated by grasses and brushy plants. The project area is situated within the Puget Trough physiographic province (Franklin and Dyrness 1973) approximately 1 mile east of the southern part of Puget Sound shoreline. Sequalitchew Creek drains the Edmond's Marsh area about 1 mile east, and empties into Puget Sound approximately 1.5 miles to the northwest. The Puget Trough is a basin that lies between the Coast Range to the west and the Cascade Range to the east.

## ISOLATE DESCRIPTION

**\*Narrative Description:** A galvanized kerosene can was located near the edge of the northwest corner of the area known locally as the "gravel pit" (HS-6 on Figure 2) and formerly the burning ground (45PI64). The sides of the can are dented and it exhibits some oxidation. It is missing the pour spout and wire handle, but is mostly intact. The top is domed and ribbed, and the base diameter is 11 inches, with a height of 14 inches. The dimensions suggest the volume of this can was approximately 5 gallons. Considering the lengthy range of manufacture, the age of the can is undeterminable.

**\*Vegetation (On Site):** Mostly grasses, deciduous and conifer trees, and scotch broom

**Local:** Douglas fir, Pacific madrone, red alder, elderberry, sword fern

**Local:** Glacial Plain

**Water Resources (Type):** Sequalitchew Creek **Distance:** 474 feet South **Permanence:** year round

**\*Method of Collection(s):** No materials collected

## ISOLATE AGE

**\*Component:** None

**\*Dates:** None

**\*Dating Method:** None

**Phase:** None

**Basis for Phase Designation:** None

## ISOLATE RECORDERS

**Observed by:** C. Arrington & Pete Morris

**\*Date Recorded:** February 17, 2011

**\*Recorded by (Professional Archaeologist):** Cindy Arrington

**\*Affiliation:** Parus Consulting, Inc

**\*Affiliation Phone Number:** 916-765-9381

**\*Affiliation Address:** 1508 Eureka Road, Suite 170, Roseville, CA

**\*Affiliation E-mail:** Cindy@parusconsulting.com

**Date Revisited:**

**Revisited By:**

## ISOLATE HISTORY

**Previous Work (Done on Area Where Isolate was Found):**

Year	Author(s)	Report Title	Proximity to project
1977	Onat, A.R., Lee A. Bennett, and Timothy Riordan	Cultural Resources Survey: DuPont Site, Volume I, Survey of Archaeological and Ethnographical Resources at the DuPont Site	Within and near project area
1977	Stratton, David H., and Glen W Lindeman	Cultural Resource Survey, DuPont Site, Volume II: Survey of Historical Resources at the DuPont Site.	Within and near project area
1989	Welch, Jeanne	A Cultural Overview and Comprehensive Management Plan for the DuPont Property, Pierce County, Washington	Within and near project area
1991	Moura, Guy F.	Missions, War Games, and Railroad Dumps: 1989 Explorations and Excavations, Northwest Landing, DuPont, Washington	Within project area
2000	Daugherty, Richard, and Mary Condon	Archaeological Monitoring of the "Hot Spot" Removal Program, the Hazardous Waste Stockpile Areas, and Sand Stockpile Laydown Areas at the Former DuPont Works Site, DuPont, Washington	Within project area
2001	Daugherty, Richard, and Mary Condon	An Update on the Archaeological Status of Sites 45PI63 (A Trash Dump Located Along a Railroad Spur), 45PI64 (Burning Ground Dump), 45PI66 (Methodist Episcopal Mission), and 45PI455 (Part of the 9 <sup>th</sup> Cavalry Bivouac Area)	Within and near project area
2005	Wessen, Gary, Cathy Bialas and Gail Thompson	Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near project area
2008	Wessen, Gary, Cathy Bialas, Derek Shaw and Gail Thompson	Revised Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near project area

## LAND OWNERSHIP

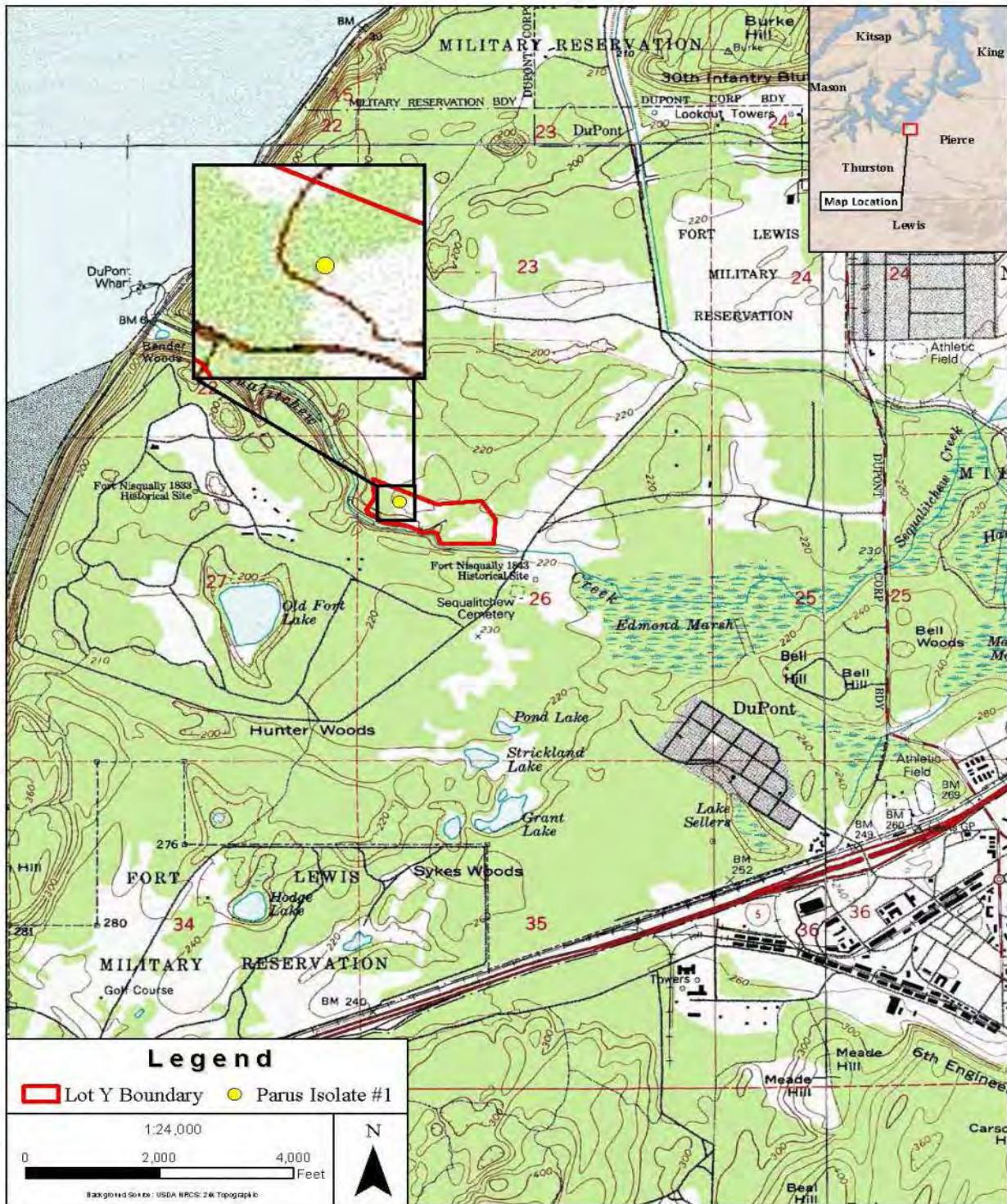
**\*Owner:** DuPont Industrial Partners, LLC  
**Address:** 1201 Pacific Avenue, Suite 1501, Tacoma, WA 98402

**\*Tax Lot/ Parcel No:**

## RESEARCH REFERENCES

**\*Items/Documents Used In Research (Specify):** 1973 Franklin, Jerry F., and C. T. Dyrness  
*Natural Vegetation of Oregon and Washington*. Pacific Northwest Forest and Range Experiment Station, U.S. Forest Service, Portland, Oregon.

USGS MAP



**PHOTOGRAPH(S)**



**Figure 1 Kerosene can (in situ)**



**Figure 2 Kerosene can (top missing spout and handle)**

**PHOTOGRAPH(S)**



**Figure 3 Kerosene can (side view)**



**Figure 4 Kerosene can (side view)**

**APPENDIX E:**  
**Unanticipated Cultural Resources Discovery Plan**

UNANTICIPATED CULTURAL RESOURCES DISCOVERY PLAN  
FOR  
DU PONT INDUSTRIAL PARTNERS, LLC, LOT Y PROJECT  
CITY OF DU PONT, PIERCE COUNTY, WASHINGTON

Prepared For:

**DuPont Industrial Partners, LLC**

1201 Pacific Avenue, Suite 1501  
Tacoma, Washington 98402

Prepared By:

Nancy E. Sikes, Ph.D., RPA



1508 Eureka Road, Suite 170  
Roseville, CA 95661

Final– April 14, 2011

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<b>Discovery Procedures .....</b>	<b>2</b>
<b>Inadvertent Discovery of Archaeological Deposits .....</b>	<b>2</b>
<b>Inadvertent Discovery of Human Skeletal Remains .....</b>	<b>3</b>
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## INTRODUCTION

DuPont Industrial Partners, LLC (Partners) plans to undertake various ground-disturbing activities during planned construction of a multi-building industrial park on Lot Y in the City of DuPont in Pierce County. This Discovery Plan presents the approach that Partners will use to ensure the protection of cultural resources and describes the steps and actions that must be taken should cultural resources, including human remains, be discovered during ground-disturbing or construction activities for the proposed Lot Y project. This plan provides a brief description of the project, the location of the project, the potential for encountering cultural resources materials or deposits, the discovery procedures that will be employed, and who will be notified if archaeological materials or deposits, or human skeletal remains, are exposed during project implementation.

## PROJECT DESCRIPTION, LOCATION AND HISTORY

The project encompasses approximately 25.3 acres on private land known as Lot Y (Assessor's Property Tax Parcel No. 0119262019) located in the City of DuPont, Pierce County, Washington. Lot Y is located within the city limits west of Center Drive and north of Sequallitchee Creek. Partners plans to develop a multi-building industrial park on Lot Y. The complex would include up to 12 buildings totaling approximately 340,000 square feet of building area, roadways, loading areas, approximately 650 parking spaces, and installation of underground utilities.

Plans also include construction of a trail along the creek to the southwest of the industrial park. The existing historical marker erected by the DuPont Company in 1927 at the site of the former Methodist Episcopal Mission (45PI66) will be moved to the trailhead area where the public will have continued access. An interpretive sign explaining the history of the temporary encampment of the 9th U.S. Cavalry Buffalo Soldiers (45PI455) within Lot Y will also be erected.

The Lot Y project area is located within Section 26, Township 19 North, Range 01 East on the Nisqually 1981 USGS 7.5-minute topographic map (Willamette Meridian). Elevation within Lot Y ranges from 64 to 68 meters (210-223 feet) above mean sea level.

A cultural resources investigation for the Lot Y project was conducted for Partners by Parus Consulting, Inc. (PCI) (Sikes and Arrington 2011). The work was conducted under an Archaeological Excavation Permit approved by the Washington State Department of Archaeology & Historic Preservation (DAHP) on February 7, 2011 (Permit No. 2010-54). The study included background research, correspondence with cultural resources staff or Tribal Historic Preservation Officers (THPOs) for the Nisqually, Puyallup and Squaxin Tribes, and archaeological survey and excavation. The fieldwork was conducted in February and March 2011 and included examination of the surface and subsurface sediments in a series of shovel test probes and geotechnical exploration pits.

Monitoring of construction activities during project implementation was not recommended. Lot Y has been extensively disturbed beginning with historic period settlement in the early 1880s, then operation of the DuPont Powder Works in the early to mid-1900s (including use of part of Lot Y as a burning ground dump from the 1930s until 1945), followed by subsurface archaeological investigations and related artifact collection between 1989 and 2005 and by environmental remediation activities in 1999 and 2000. No evidence was found during the 2011 investigation of two previously recorded historic archaeological sites (45PI66 Methodist Episcopal Mission site and 45PI455 9th U.S. Cavalry Bivouac site) and one flaked stone isolate (45PI773), except for two brick fragments within the boundaries of 45PI66. Nor was there any evidence of two other archaeological sites (45PI63 Railroad Dump #3 site and 45PI64 Burning Ground Dump site) formerly located within Lot Y that were completely removed during hazardous

materials remediation. Two surface historic archaeological sites (GEO RR10 railroad track segment and Parus-01-11 concrete platform) were identified within Lot Y during the fieldwork in 2011, but they are not considered significant.

## **POTENTIAL FOR DISCOVERY**

The potential for discovery of buried archaeological materials, features or deposits, or of buried human remains, by implementation of this project is considered low. No significant cultural/archaeological sites are known to remain within the project area, and there has been extensive disturbance to the Lot Y landscape. The nearest known archaeological sites are located on the north bank of Sequalitchew Creek immediately outside of the Lot Y project area (set of concrete bridge abutments) and approximately 0.1 mile east of Lot Y near Center Drive on the north and south banks of the creek (flaked stone artifacts and locations of mid-1850s dwellings near the west palisade wall of 1843 Fort Nisqually).

No significant cultural resources were identified on the surface or within the subsurface sediments exposed in a series of 125 shovel test probes and 22 geotechnical exploration pits placed within Lot Y. Excavated in February and March 2011, the 2.5 foot-wide, 3-foot long shovel test probes ranged from 1.1 to 4.3 feet in depth. The geotechnical exploration pits averaged 10 feet deep, 3 feet wide, and 5 feet long. The subsurface sediments are gravelly sandy loam over gravelly sand with no soil matrix. Except for one brick fragment and a flat iron bar, there was no indication of a midden or other cultural deposits, artifacts or features within the 147 excavation units.

## **DISCOVERY PROCEDURES**

### **INADVERTENT DISCOVERY OF ARCHAEOLOGICAL DEPOSITS**

Archaeological deposits within the proposed Lot Y project are protected by Washington State law: Indian Graves and Records (Revised Code of Washington [RCW] 27.44), Archaeological Sites and Resources (RCW 27.53), and Archaeological Excavation and Removal Permit (WAC 25-48). Failure to comply with these could constitute a Class C Felony.

If any Partners employee, its contractors or subcontractors believes that he or she has inadvertently uncovered any cultural resource, then all work adjacent to the discovery shall cease, and he or she shall immediately notify the construction foreman, inspector, or on-site Partners representative who shall immediately notify the contact at Partners responsible for on-site activities:

**DuPont Industrial Partners, LLC**

Lia Estigoy

(253) 396-4860

A cultural resource discovery could consist of:

- Prehistoric and ethnohistoric materials such as flaked stone tools, tool-making debris, stone milling tools, fire-affected rock, basketry, culturally modified animal bone, fishing implements or soil darkened by cultural activities (midden).
- Historic materials might include remnants of railroad or roadway construction activities or other industry or commerce (e.g., railroad ties, concrete blocks, machinery parts), building remains, metal, glass, cans, or ceramic artifacts or debris older than 50 years.

For all types and classes of cultural/archaeological material other than human remains (see below), the person responsible for on-site activities shall immediately call the Washington State Department of Archaeology and Historic Preservation (DAHP), which is the state agency with jurisdiction over archaeological discoveries:

**Department of Archaeology and Historic Preservation (DAHP)**

Gretchen Kaehler, Local Government Archaeologist

Direct line: (360) 586-3083

Cell: (360) 628-2755

The DAHP representative, Ms. Kaehler, will advise Partners (represented by Lia Estigoy) of the specific course of action following the discovery of archaeological materials, deposits or features. For the discovery of human remains, see below. Such actions specified by the DAHP representative could include avoidance of the finds with protection in place, or an archaeological assessment and recovery if avoidance is unfeasible, among other options. Ground-disturbing activity in the vicinity of the find(s) cannot resume until it has been approved by the DAHP representative.

**INADVERTENT DISCOVERY OF HUMAN SKELETAL REMAINS**

For this project on non-federal and non-tribal lands in the State of Washington, procedures and actions for the inadvertent discovery of human skeletal remains or suspected human remains must comply with RCW 27.44, RCW 68.50 and RCW 68.60. If ground disturbing activities encounter human skeletal remains during the course of construction, then all activity **must** cease that may cause further disturbance to those remains and the area of the find must be secured and protected from further disturbance. In addition, the finding of human skeletal remains **must** be reported to the County Coroner and local law enforcement in the most expeditious manner possible. The remains should not be touched, moved, or further disturbed.

Immediate notification by phone shall be made to the County Coroner, local law enforcement and DAHP:

**Pierce County Coroner**

Dr. Thomas B. Clark III

3619 Pacific Avenue

Tacoma, Washington 98418

Telephone: (253) 798-6494

**DuPont Police Department**

1780 Civic Drive, Ste. 100

DuPont, Washington 98327

Telephone: 911 or (253) 964-7060

The Pierce County Coroner will assume jurisdiction over the human skeletal remains and make a determination of whether those remains are forensic or non-forensic. If the County Coroner determines the remains are non-forensic, then he or she will report that finding to DAHP who will then take jurisdiction over those remains and report them to the appropriate cemeteries or affected tribes.

The State Physical Anthropologist will make a determination of whether the remains are Indian or Non-Indian and report that finding to the affected parties. The DAHP will then handle all consultation with the affected parties as to the future preservation, excavation, and disposition of the remains. Ground-disturbing activity near the human remains may not resume until permission to resume work has been received by Partners from DAHP.

**Department of Archaeology and Historic Preservation (DAHP)**

Guy Tasa, State Physical Anthropologist  
1063 South Capital Way, Suite 106  
Olympia, WA 98501  
Direct line: (360) 586-3535

**SUMMARY**

Following the procedures presented in the Discovery Plan will ensure that ground-disturbing and construction activities for implementation of the proposed Lot Y project are in compliance with state and local laws that protect archaeological resources on public lands.

**REFERENCES**

Sikes, Nancy E., and Cindy J. Arrington  
2011 *Archaeological Survey, Testing and Monitoring at 45PI66, 45PI455 and 45PI773, DuPont Industrial Partners, LLC, Lot Y Project, City of DuPont, Pierce County, Washington*. Report prepared by Parus Consulting, Inc. for DuPont Industrial Partners, LLC.

**CULTURAL RESOURCES ADDENDUM MEMO  
FOR THE AVENUE 55, LLC DUPONT WEST PROJECT  
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON**

Prepared for:

Avenue 55, LLC  
601 Union Street, Ste. 2930  
Seattle, WA 98101

Prepared by:  
John A. Nadolski, MA



3104 O Street, #221  
Sacramento, CA 95816

October 2023

## EXECUTIVE SUMMARY

DuPont Industrial Partners, LLC in 2011 proposed the development of approximately 25.3-acres of private land at 1700 Center Drive in the City of DuPont, Pierce County, Washington. The parcel of land proposed for development is identified as Lot Y, Assessor's Property Tax Parcel No. 011926-2019. DuPont Industrial Partners, LLC had proposed construction of a multi-building industrial park on Lot Y that included a maximum of twelve 12 buildings, parking spaces, roadways, installation of underground utilities, and construction of a trail along Sequalitchew Creek to the south of the proposed development. Parus Consulting, Inc. (PCI) was retained by DuPont Industrial Partners, LLC to conduct cultural resources investigations to facilitate construction of the project and comply with all Washington State Department of Archaeology & Historic Preservation (DAHP) regulations and the State Environmental Protection Act (SEPA). However, DuPont Industrial Partners, LLC did not construct any buildings or develop Lot Y.

Avenue 55, LLC is currently proposing to develop a section of Lot Y, defined as: Lot 1, which is 17.72 acres and 1.93 acres in Lot 2, totally 19.65, that was originally part of DuPont Industrial Partners, LLC proposed 2011 development. Avenue 55, LLC proposes to construct a warehouse distribution facility, parking spaces, and associated underground utilities on approximately 19.65 acres of Lot Y west of Sequalitchew Road, that they are now calling DuPont West. Avenue 55, LLC retained Natural Investigations Company, Inc. (Natural Investigations) to review PCI's report and present any new findings and/or recommendations to facilitate construction of the new project on Lot Y and comply with all state regulations (e.g., DAHP and SEPA) for the identification and protection of cultural resources. The purpose of this addendum is to present the results of Natural Investigations review of PCI's 2011 report and its findings, including any changes to the report or findings and/or any new recommendations for the protection of cultural resources.

PCI conducted cultural resources investigations for the proposed originally project on Lot Y in 2011. The investigations included a pedestrian survey and excavation of 125 shovel test probes and 22 geotechnical exploration pits. PCI's cultural resources investigations were conducted under Archaeological Excavation Permit (Permit) No. 2010-54 approved by the DAHP on February 7, 2011 and were monitored by a member of the Nisqually Tribe.

PCI's pedestrian survey and excavations did not identify any evidence of previously recorded sites and isolates on Lot Y including sites 45PI66, the site of a Methodist Episcopal Mission and 45PI455, the site of a 9th U.S. Cavalry Bivouac, and a flaked stone isolate, 45PI773. In addition, PCI cultural resources investigations confirmed previous reports that two sites 45PI63, Railroad Dump #3, and 45PI64, Burning Ground Dump, formerly located on Lot Y were completely destroyed/removed over twenty years ago as part of hazardous materials remediation across Lot Y. PCI did identify two new historic sites, 45PI01224, a segment of railroad track, and 45PI01225, a concrete platform and one isolated kerosene can on Lot Y.

Sites 45PI455 and 45PI66 were previously determined eligible for the National Register of Historic Places (NRHP) at 36 Code of Federal Regulations (CFR) Part 60.4 [a-d] under Criterion A because of their association with significant events in history, but there are no extant remnants of the sites on Lot Y. Sites 45PI01224 and 45PI01225 are not in the section of Lot Y currently proposed for development and do not meet any of the eligibility criteria for inclusion on the NRHP or the Washington Heritage Register (WHR) as described in Revised Code of Washington (RCW) 27.34.200. Consequently, PCI determined that no historic properties would be affected by development of Lot Y and because of the archaeological sensitivity of the area also recommended and prepared an Unanticipated Cultural Resources Discovery Plan for the project. PCI's report was filed with the DAHP and sent to the appropriate Tribes.

Natural Investigations reviewed PCI's 2011 report and the results of their cultural resources investigations. The cultural resources investigations and findings presented in the report for development of Lot Y are adequate and remain valid for Avenue 55, LLC's currently proposed project, DuPont West. Indeed, reduction in the size of the current project places sites 45PI01224 and 45PI01225 outside project

boundaries. Therefore, Natural Investigations confirms the findings presented in PCI's 2011 report, does not recommend any additional investigations, and pursuant to DAHP regulations and SEPA Checklist Section B, Number 13, determines that construction of the project currently proposed by Avenue 55, LLC would not affect any historic properties (i.e., properties eligible for or listed on the NRHP) or properties that could be eligible for the WHR.

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APPENDIX A: Archaeological Survey, Testing, and Monitoring at 45PI66, 45PI455 and 45PI773, DuPont Industrial Partners, LLC, Lot Y Project, City of DuPont, Pierce County, Washington. Report prepared by Parus Consulting, Inc. 2011

## INTRODUCTION

DuPont Industrial Partners, LLC in 2011 proposed the development of approximately 25.3-acres of private land at 1700 Center Drive in the City of DuPont, Pierce County, Washington. The parcel of land proposed for development is currently identified as Lot Y, Assessor's Property Tax Parcel No. 011926-6005, 011926-6006, and 011926-6007. DuPont Industrial Partners, LLC proposed construction of a multi-building industrial park on Lot Y that included a maximum of twelve 12 buildings totaling approximately 340,000 square feet of building space, roadways, loading areas, approximately 650 parking spaces, installation of underground utilities, and construction of a trail along Sequalitchee Creek to the south of the proposed development. PCI was retained by DuPont Industrial Partners, LLC to conduct cultural resources investigations to facilitate construction of the project and comply with all DAHP regulations and SEPA. However, DuPont Industrial Partners, LLC did not construct any buildings or develop Lot Y.

Avenue 55, LLC is currently proposing to develop part of Lot Y that was originally part of DuPont Industrial Partners, LLC proposed 2011 development. Avenue 55, LLC retained Natural Investigations to review PCI's report and present any new findings to facilitate construction of the new project on Lot Y and comply with all state regulations (e.g., DAHP and SEPA) for the identification and protection of cultural resources. The purpose of this addendum is to present the results of Natural Investigations review of PCI's 2011 report and its findings, including any changes to the report or findings and/or any new recommendations for the protection of cultural resources.

## PROJECT LOCATION AND DESCRIPTION

Avenue 55, LLC proposes to develop an approximately 19.65 acres parcel of land identified as Lot Y, Assessor's Property Tax Parcel No. 011926-6005, 011926-6006 in the City of DuPont, Pierce County, Washington (Figure 1). The proposed development includes construction of one warehouse distribution facility totaling approximately 256,800 square feet, 141 parking spaces, 44 trailer stalls, a 27,130 square foot storm pond located in the southwest corner of Lot 1, public trails along the southern border, and associated underground utilities west of Sequalitchee Road (Figure 2).

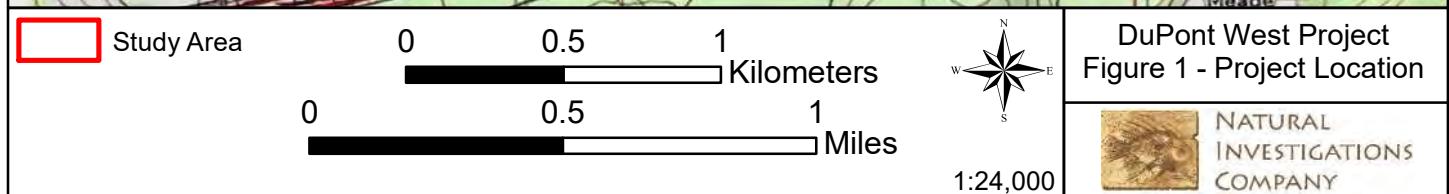
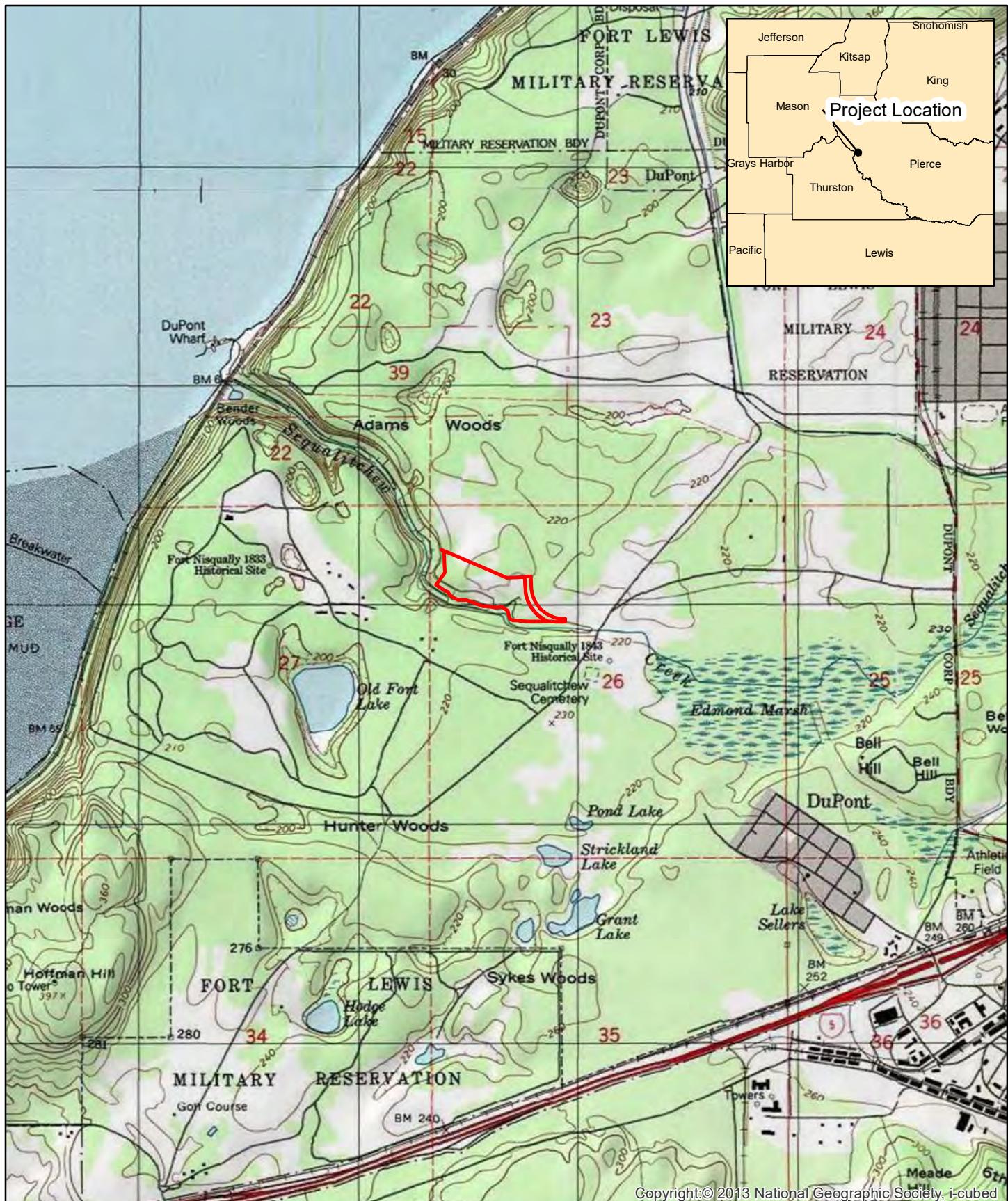
## REGULATORY SETTING

There is no federal involvement in the project as currently proposed. PCI's and Natural Investigations cultural resources investigations for the proposed project were conducted under prevailing Washington state laws that protect cultural resources (e.g., prehistoric archaeological sites, historic sites, historic buildings, and Native American sites and graves). These laws include Executive Order 05-05 (currently revised as Executive Order 21-02), Indian Graves and Records (RCW 27.44), Archaeological Sites and Resources (RCW 27.53), Archaeological Excavation and Removal Permit (Washington Administrative Code [WAC] 25-48), and Discovery of Human Remains (RCW 27.44). In addition, PCI obtained a permit to conduct cultural resources investigations including excavations within boundaries of known archaeological sites. The Permit (No. 2010-54) was completed pursuant to requirements at WAC 25-48-060.

## REPORT ADDENDUM PREPARATION

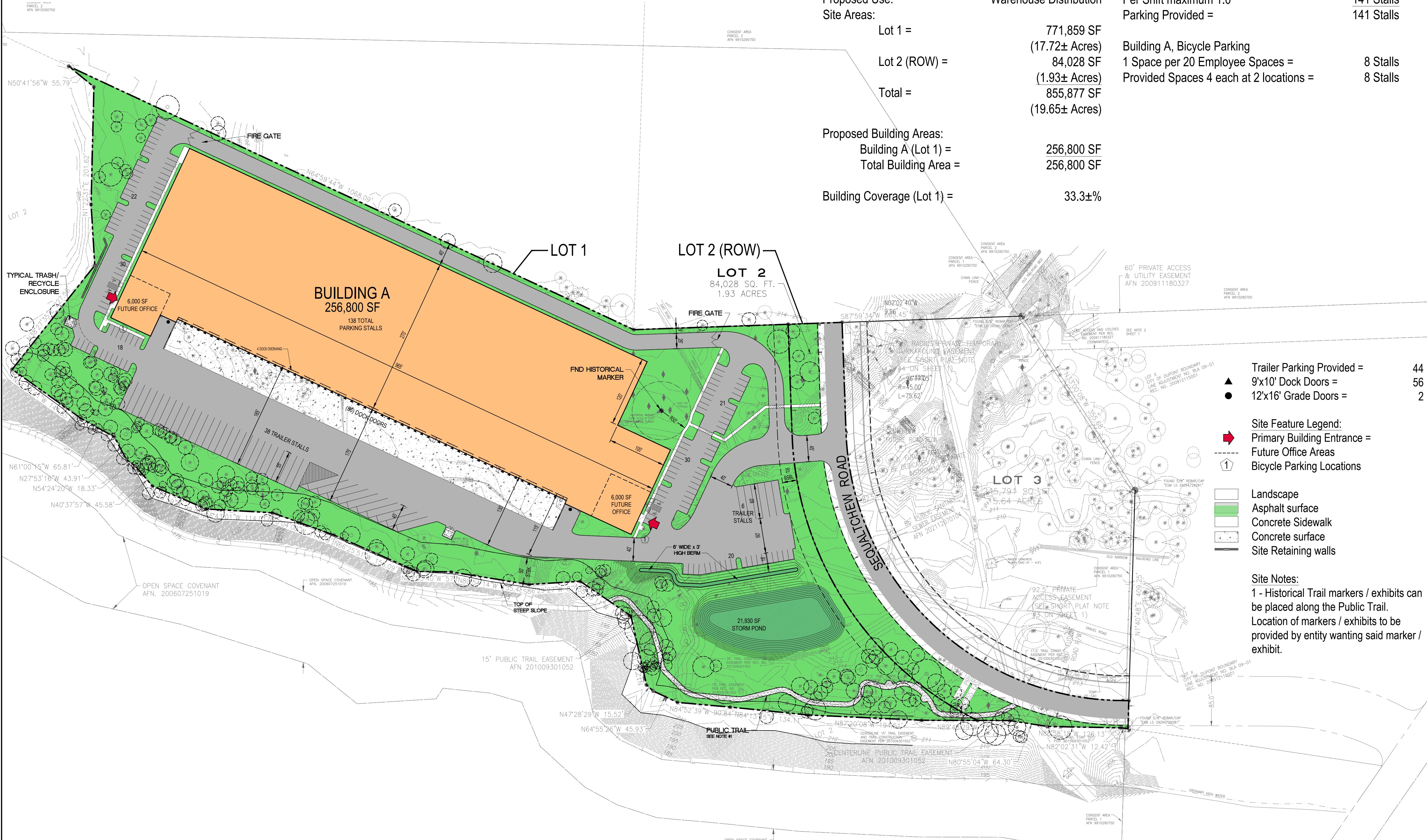
John A. Nadolski, MA was the Principal Investigator for this project and is primary author of this report addendum. Mr. Nadolski has more than thirty-five years of experience in archaeology and exceeds all

requirements of the *Secretary of Interior's Qualifications Standards* (36 CFR Part 61; National Park Service 1983) and the DAHP. The format of this report addendum follows DAHP guidance.



## SITE DETAILS

Site Address:	1700 Center Drive Dupont, WA 011926-2019	Parking Analysis
Parcels:	Manufacturing and Research (MRP)	Building A, Assumes 12,000 SF Future Office
Zoning:	Warehouse Distribution	Total 256,800 SF
Proposed Use:		Per Shift minimum 0.3
Site Areas:		43 Stalls
Lot 1 =	771,859 SF (17.72± Acres)	Per Shift maximum 1.0
Lot 2 (ROW) =	84,028 SF (1.93± Acres)	141 Stalls
Total =	855,877 SF (19.65± Acres)	Parking Provided =
Proposed Building Areas:		141 Stalls
Building A (Lot 1) =	256,800 SF	
Total Building Area =	256,800 SF	
Building Coverage (Lot 1) =	33.3±%	



**INNOVA**  
architects  
950 Pacific Avenue, Suite 450  
Tacoma, WA 98402  
253-572-4903

Project Title:  
**DuPont - West**  
1700 Center Drive  
DuPont, WA

Client:  
**AVENUE 55**  
600 University Street, Suite 2305  
Seattle, WA 98101  
206-707-9696

Job Number:  
22-012

Issue Set and Date:  
SEPA Permit  
July 11, 2023

**NOT FOR CONSTRUCTION**

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City Comments - Letter Dated: February 17, 2023  
Revisions:

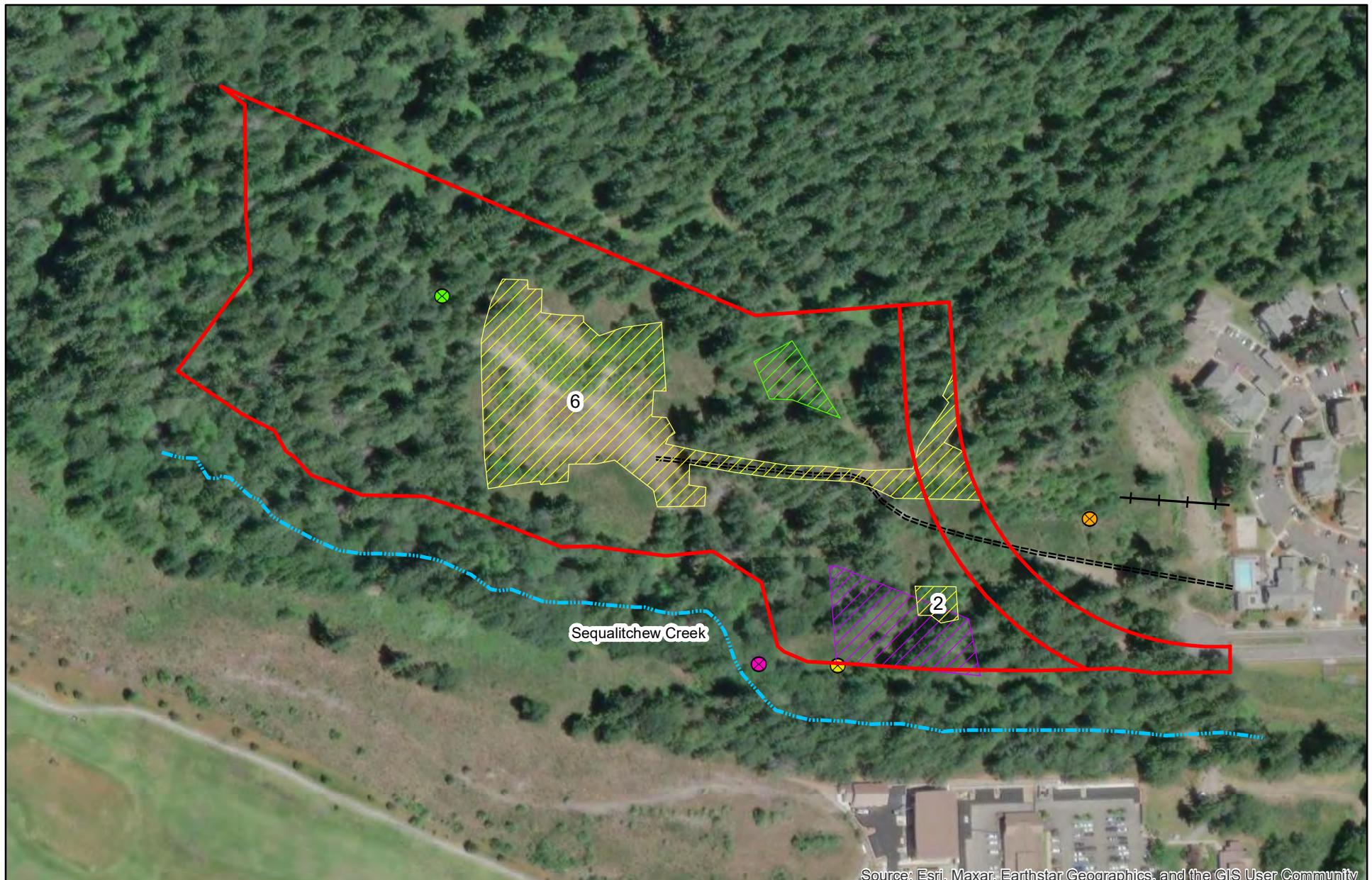
Sheet Title:  
**SEPA  
Site Plan**

Designed by: B. Ludwig, J. Eaves

Drawn by: B. Ludwig, J. Eaves

Checked by: P. McCormick

Sheet Number:  
**A0.1**  
of Sheets



Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

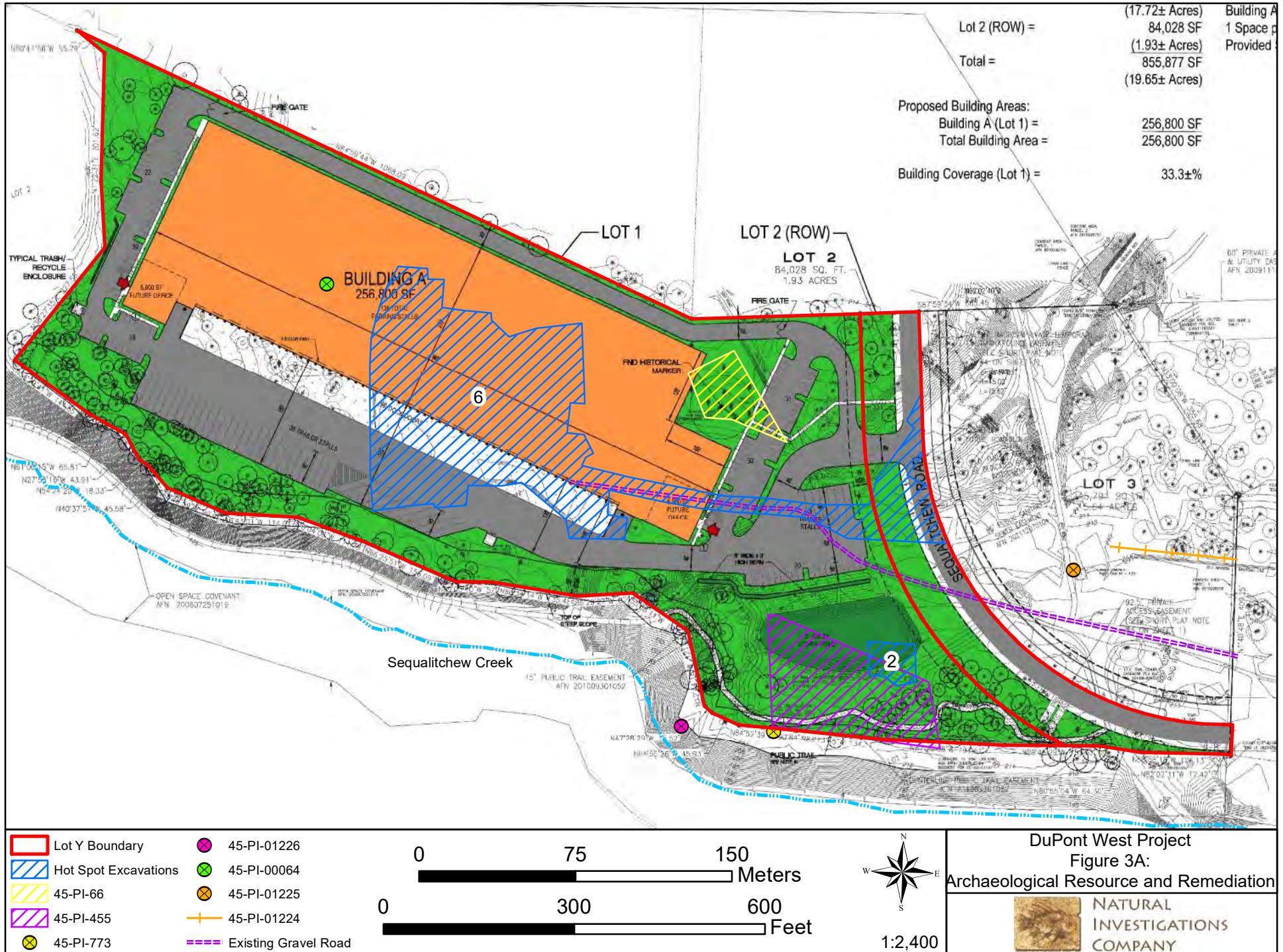
DuPont West Boundary	45-PI-01226
Hot Spot Excavations	45-PI-00064
45-PI-66	45-PI-01225
45-PI-455	45-PI-01224
45-PI-773	===== Existing Gravel Road

0 100 200  
Meters

0 400 800  
Feet



DuPont West Project  
Figure 3:  
Archaeological Resource and Remediation  
 NATURAL  
INVESTIGATIONS  
COMPANY



## RESEARCH METHODS AND FINDINGS

PCI conducted a cultural resources records search for the project on October 21, 2010 using the DAHP electronic GIS database to identify previously recorded sites and previously conducted surveys on and near Lot Y (Tables 1 and 2). PCI also conducted tribal consultation (i.e., cultural representatives or Tribal Historic Preservation Officers for the Nisqually, Puyallup and Squaxin Tribes were contacted regarding the project), a pedestrian survey, subsurface testing, and monitoring of geotechnical subsurface exploration on Lot Y in February and March 2011. All PCI investigations were conducted under DAHP Permit No. 2010-54.

**Table 1. Previous Studies on or near Lot Y**

Year	Author(s)	Report Title	Proximity to Lot Y
1977	Onat, A.R., Lee A. Bennett, and Timothy Riordan	Cultural Resources Survey: DuPont Site, Volume I, Survey of Archaeological and Ethnographical Resources at the DuPont Site	Within and near Lot Y
1977	Stratton, David H., and Glen W. Lindeman	Cultural Resource Survey, DuPont Site, Volume II: Survey of Historical Resources at the DuPont Site	Within and near Lot Y
1989	Welch, Jeanne	A Cultural Overview and Comprehensive Management Plan for the DuPont Property, Pierce County, Washington	Within and near Lot Y
1990	Stilson, M. Leland	A Data Recovery Study of 45PI401, Hudson's Bay Dwellings at Northwest Landing, Pierce County, Washington	0.1 mile east
1991	Moura, Guy F.	Missions, War Games, and Railroad Dumps: 1989 Explorations and Excavations, Northwest Landing, DuPont, Washington	Within
1991	Stilson, M. Leland	A Data Recovery Study of 45PI405, the 1843 Fort Nisqually Village at Northwest Landing, Pierce County, Washington	0.1 mile east
2000	Daugherty, Richard, and Mary Condon	Archaeological Monitoring of the "Hot Spot" Removal Program, the Hazardous Waste Stockpile Areas, and Sand Stockpile Laydown Areas at the Former DuPont Works Site, DuPont, Washington	Within
2001	Daugherty, Richard, and Mary Condon	An Update on the Archaeological Status of Sites 45PI63 (A Trash Dump Located Along a Railroad Spur), 45PI64 (Burning Ground Dump), 45PI66 (Methodist Episcopal Mission), and 45PI455 (Part of the 9th Cavalry Bivouac Area)	Within and near Lot Y
2002	Maass, Alex	Interim Archaeological Monitoring Report for the Former DuPont Works Site, Parcel 1	Adjacent (to west)
2003	Maass, Alex	2002 Field Season Archaeological Monitoring Report for the Former DuPont Works Site, Parcel 1	Adjacent (to west)
2003	Wessen, Gary	Exploring the Boundary and Possible Interpretation of 45PI485	South of creek
2004	Wessen, Gary	Archaeological Testing at 45PI576, Former DuPont Works Site, City of DuPont, Pierce County, Washington	South of creek
2005	Dampf, Steven	Archaeological Monitoring Report for the 2003 and 2004 Field Seasons at the Former Dupont Works Site Parcel 1, City of DuPont, Pierce County, Washington	Adjacent (to west)
2005	Wessen, Gary, Cathy Bialas and Gail Thompson	Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near Lot Y
2006	Thompson, Gail	Archaeological Implementation Report for Remediation of Soils at the Former DuPont Works Site Parcel 1, City of DuPont, Pierce County, Washington	Adjacent (to west)
2008	Wessen, Gary, Cathy Bialas, Derek Shaw and Gail Thompson	Revised Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near Lot Y

**Table 2. Previously Recorded Sites on Lot Y**

Site No.	Brief Description	Recorded By/Year	Prior Reports	NRHP Eligibility
45PI00063	Historic debris deposit, two loci along railroad, 1910- 1930; removed during soil remediation	Riordan, 1977; Daugherty, 1993 NRHP form	Blukis Onat et al., 1977; Welch, 1989a; Moura, 1991a; Daugherty and Condon, 2001	Not eligible
45PI00064	Historic DuPont Powder Works burning ground dump, 1930s-1945; removed during soil remediation	Riordan, 1977; Daugherty, 1993 NRHP form	Blukis Onat et al., 1977; Welch, 1989a; Daugherty and Condon, 2000, 2001	Not eligible
45PI00066	Historic 1840-1842 Methodist Episcopal Mission	Riordan, 1977; Daugherty, 1993 NRHP form	Blukis Onat et al., 1977; Welch, 1989a; Moura, 1991a; Daugherty and Condon, 2000, 2001	Eligible, included in proposed Nisqually- Sequalitchew Historic District
45PI00455	Historic 9th U.S. Cavalry Bivouac, Camp Nisqually, 1904; partially removed during soil remediation	Daugherty, 1997; Daugherty, 1997 NRHP form	Moura, 1991a, 1991b; Daugherty and Condon, 2000, 2001	Potentially eligible, included in proposed Nisqually- Sequalitchew Historic District
45PI00773	Prehistoric chipped stone isolate	Wessen, 2005	Wessen et al., 2005, 2008	Not eligible

## SURVEY

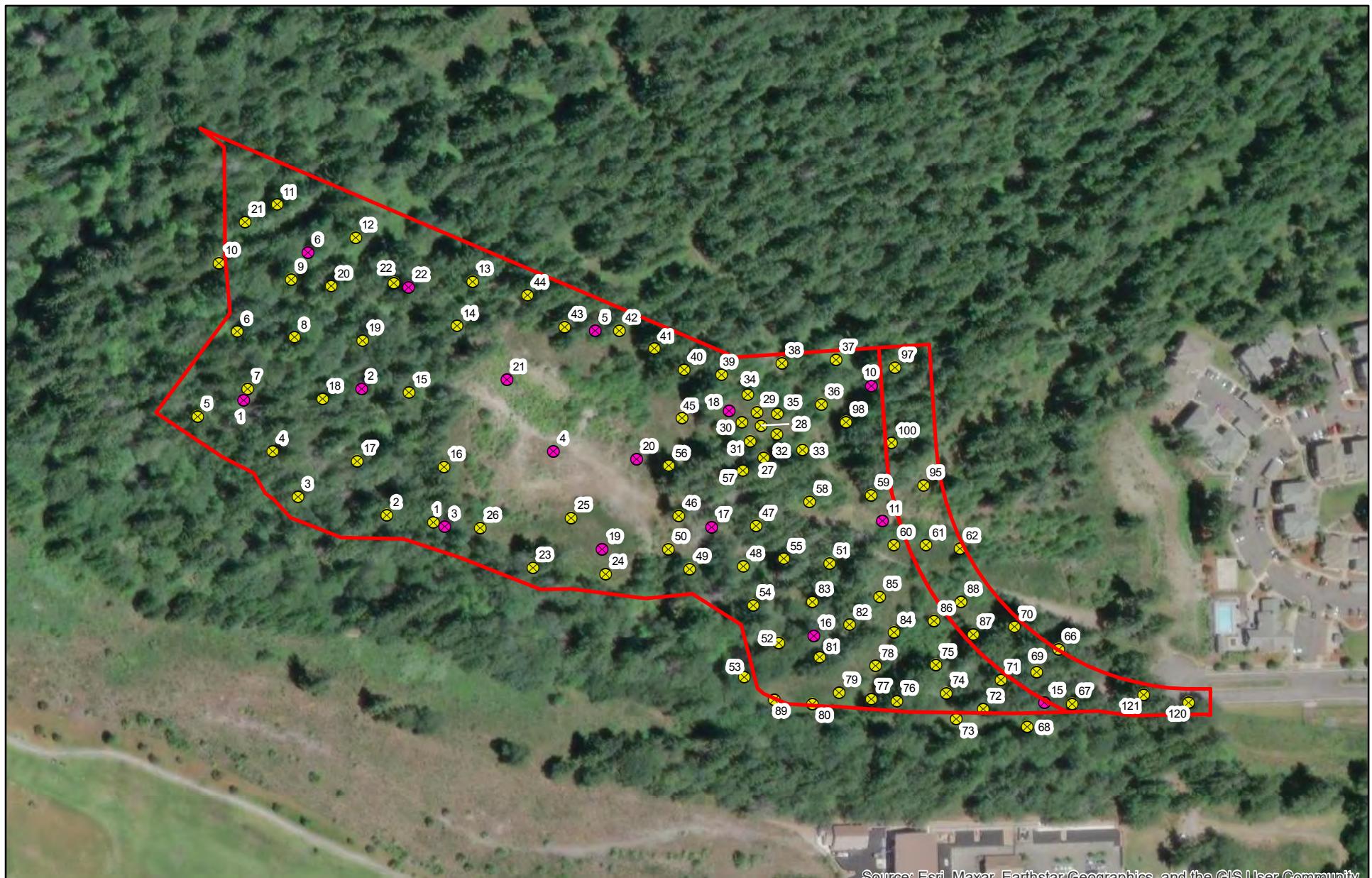
PCI conducted a pedestrian surface survey across the original 25.3-acre original project area. Transect spacing was no greater than 15 meters apart and survey was accomplished on an east-to-west bearing.

## EXCAVATIONS

Following the pedestrian survey, 125 shovel test probes (STPs) and 22 geotechnical excavations (GTEs) were excavated across Lot Y at random intervals as shown on Figure 4. At the request of the City of DuPont and the DAHP, no STPs were placed in existing trails, pedestrian paths, or gravel roadways. Additionally, all STPs were backfilled and compacted daily. The STPs and GTEs were excavated using a backhoe with a 2-foot bucket attachment and smooth plate. The excavation of the STPs and GTEs totaled approximately 450 cubic meters of soil.

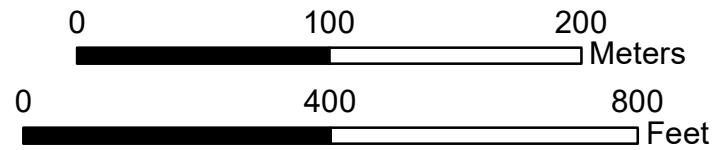
Each of the 125 STPs measured 3 feet in length and 2.5 feet in width. STP levels were dug in 7-cm (3- inch) increments or until sterile gravels were encountered. Soils taken from the STPs were screened through 1/8-inch hardware cloth. No STPs were placed in three hot spots, HS-3, HS-4, and HS-6, that include the former locations of sites 45PI00063 and 45PI00064 where prior soil remediation efforts removed contaminated soils and where sterile gravel is now exposed across these areas of Lot Y (Figures 2 and 4). Sterile gravel was encountered in 123 of 125 STPs between 35 and 130 centimeters below the surface (cmbs) (1.1-4.3 feet) and mixed stratigraphy or fill was present in two STPs. Records for the individual STPs, detailing levels, soil texture, color, and comments are included in Appendix C of PCI's 2011 report included as Appendix A of this memo.

Each of the 22 GTEs measured 3 feet wide by 5 feet long. GTE upper levels were dug in 3-inch (7 centimeter) increments or until sterile gravels were encountered. Lower levels of the GTEs, after encountering sterile gravels, were dug in 1-foot increments. Four of the GTEs were excavated in hot spot removal areas (Figures 2 and 4). Soils taken from the GTEs at 4 feet, 6 feet, and 10 feet were screened through 1/8-inch hardware cloth. Twenty GTEs were excavated to 305 cmbs (10 feet); one GTE with mixed stratigraphy was terminated at 250 cmbs (8.2 feet); one GTE filled with water at 244 cmbs (8 feet). Records for the individual GTEs, detailing levels, soil texture, color, and comments, are included in Appendix C of PCI's 2011 report included as Appendix A of this memo.



Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

- DuPont West Boundary
- Geotechnical Excavation
- Shovel Test probe



DuPont West Project  
Figure 4: Subsurface Testing Map



NATURAL  
INVESTIGATIONS  
COMPANY

## **Surface Survey Results**

All undeveloped ground surface areas in the boundaries of Lot Y were examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, fire pits, soil depressions, and features indicative of the former presence of structures or buildings (e.g., postholes, foundations), or historic debris (e.g., metal, glass, ceramics). Ground disturbances, including a graveled dirt road and dirt two-track, were visually inspected.

Surface survey did not identify any remnants of sites 45PI00063, 45PI00064, 45PI00455, or isolate 45PI00773. Survey did identify two brick fragments at the recorded location of site 45PI00066, three new historic sites, and a historic isolate. The three sites include 45PI01224, a segment of a previously identified narrow-gauge railroad track and grade, 45PI01225, a concrete railroad loading platform, and 45PI01226, a set of railroad bridge abutments. The isolate, 45PI00064, is a galvanized kerosene can. Only the isolated kerosene can, 45PI00064, is in the new Avenue 55, LLC project boundaries. No artifacts were collected. PCI archaeologists completed the appropriate Washington Archaeological Site Inventory and Isolate forms for all archaeological materials identified during the survey.

## **Subsurface Testing Results**

The subsurface stratigraphy was consistent in 123 of the 125 STPs and all 22 GTEs excavated in the boundaries of DuPont West (Figure 4). The soil throughout the project area is consistent with the description for the Spanaway series developed on glacial outwash sediments. There are three soil horizons, though horizon 2 is not present in all STPs or GTEs. The depth of the horizons varies across the Lot Y landscape in relation to the topography and prior human disturbance. Horizon 1 is a moist, very dark brown (10 YR 2/2) gravelly sandy loam with weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots with a very high organic matter content. Horizon 2 is a moist very fine crumb dark gray brown (10 YR 3/2) gravelly sandy loam with little distinction in texture from horizon 1. Horizon 3 is moist and fluctuates between a dark gray brown (2 YR 4/2) and an olive brown (2YR 4/4) gravelly sand with no soil matrix. The single grained, loose sand is the prominent content with some rounded to sub-rounded cobbles; it is also very compact.

Only two of the subsurface units (STPs 28 and 115) contained cultural material. A brick fragment, measuring 3x4x2 inches, was located at 20 cmbs (8 inches) in STP 28 within site 45PI66 (Methodist Episcopal Mission). The brick was not handmade and no maker's marks were located on the fragment. Additionally, a smaller brick fragment was located at ground level within inches of STP 35 (also within 45PI66). STP 115 is located 18.5 feet due east of a concrete platform and the soil is entirely mixed down to a level of 200 cmbs (6.6 feet). A flat iron bar with four bolts protruding was located at 160 cmbs (5.2 feet). The iron bar measured 24 inches long by 3 inches wide and 1/8<sup>th</sup> inch thick, and has four 3.5-inch metal bolts spaced roughly 7 to 8 inches apart. The iron bar appears to be associated with the concrete platform, given its close proximity and the paint on the bolt heads matches the metal on the platform.

All but two of the 125 STPs (STP 89 and 115) were excavated until sterile gravel was encountered. Although the presence of the Spanaway series soil horizons was consistent, the depth of sterile gravel varied from 35 cmbs to 130 cmbs (1.1-4.3 feet) across Lot Y. STP 115 had mixed stratigraphy and was excavated to a depth of 200 cmbs (6.6 feet). The soil in STP 89 is a moist, brown (7.5 YR 4/4) silty loam until the typical underlying horizon appears at 110 cmbs (3.6 feet) as a moist, dark green brown (2.5 YR 4/4) gravelly sand. The typical upper horizon of gravelly sandy loam appears to have been removed near STP 89 and replaced with imported soil. The STP was placed 66 feet northeast of the set of bridge abutments. It seems likely that more stable soil was imported for the approach to the narrow-gauge bridge that once crossed Sequalitchew Creek.

Six of the STPs located in the eastern portion of the project (STPs 113, 116-119) near the gravel road display a gray upper horizon not noted in any other portion of the project area. The moist, dark gray (2.5 YR 3/1) soil is similar in structure to the typical horizon 1, but is noticeably different in color and is relatively thin (0-25 cm [0-9.8 inches]), and is likely related to prior disturbance.

STPs 120 through 125, located in the southeastern portion of the project area, all show evidence of a grass fire. Small flecks of charcoal are noted in the upper 5 cm of each unit. Of these six STPs, only STP 120 that is nearest to the creek extending to a depth of 95 cmbs (3.1 feet) and exhibited horizon 2.

In summary, only two artifacts were identified during excavation of the STPs. The two artifacts are the brick fragment recovered from STP 28 and the iron bar from STP 115. No other cultural material was identified as a result of excavation across Lot Y.

### **Geotechnical Subsurface Exploration Results**

Twenty-two GTEs were excavated across Lot Y (Figure 4-only shows DuPont West GTEs, 16 total) to a depth of 305 cmbs (10 feet). Two GTEs, 9 and 14, were excavated to depths of 250 cmbs (8.2 feet) and 244 cmbs (8 feet), respectively. The soils throughout the GTEs are relatively consistent with the Spanaway series, although only five GTEs, 1, 3, 5, 12, 13, and 15, exhibit horizon 2. In the eastern section of Lot Y, GTE 9 has mixed stratigraphy and was excavated to a depth of 250 cmbs (8.2 feet). The upper horizon is a thin layer of sand (0-20 cmbs [0-8 inches]) followed by a mix of horizon 1 very dark brown (10 YR 2/2) gravelly sandy loam and sand with very few cobbles. It appears to be imported fill material. This unit is in close proximity to two of the hot spots, HS-3 and HS-4. In the northeastern section of Lot Y, GTE 14 was terminated at 244 cmbs (8 feet) when water entered the unit and began to fill rapidly. No cultural material was located in any of the 22 GTEs excavated across Lot Y.

## **CONCLUSIONS AND RECOMMENDATIONS**

PCI completed an intensive-level pedestrian survey, subsurface testing (i.e., excavation of approximately 450 cubic meters of soil), monitored excavation of geotechnical exploration pits, and prepared an Unanticipated Cultural Resources Discovery Plan. PCI's investigations did not identify any evidence of site 45PI66, the Methodist Episcopal Mission, site 45PI455, a 9th U.S. Cavalry Bivouac, isolate 45PI773, a piece of chipped stone, or sites 45PI63 and 45PI64 that are reported as being destroyed as part of the hazardous materials remediation project that occurred across Lot Y. PCI did identify two new sites, 45PI1224, a segment of railroad track, and 45PI01225, a concrete platform, and isolate 45PI00064, a kerosene can.

Site 45PI66, the Methodist Episcopal Mission, is eligible for the NRHP under Criterion A for its association with significant events and also contributes to the proposed Nisqually-Sequalitchew Historic District, but the site is not eligible under Criterion D because there are no physical remains of the mission present on Lot Y. Similarly, site 45PI455, the location of the brief occupation of the area by the 9<sup>th</sup> U.S. Cavalry Buffalo Soldiers, is potentially eligible for the NRHP as a contributing element to the proposed Nisqually-Sequalitchew Historic District under Criterion A, but is not eligible under Criterion D because there are no physical remains of the bivouac area present on Lot Y. The two new sites in Lot Y, 45PI1224, a railroad track segment, and 45PI01225, a concrete platform, are recommended ineligible for the NRHP. The two isolates, 45PI773 and 45PI00064, are not eligible for the NRHP. In addition, new site 45PI01226, bridge abutments, located immediately outside the boundaries of Lot Y, is also recommended ineligible for the NRHP.

Lot Y has been extensively disturbed beginning with historic period settlement in the early 1880s, operation of the DuPont Powder Works in the early to mid-1900s (including use of part of Lot Y as a burning ground

dump from the 1930s until 1945), subsurface archaeological investigations and related artifact collection between 1989 and 2005, and environmental remediation activities in 1999 and 2000. In addition, survey and excavation by PCI did not identify any significant cultural resources. Therefore, PCI determined that no further cultural resources investigations were warranted prior to the development of Lot Y and that the development of the property would not affect any historic properties.

Regardless, the results of the literature research, local ethnographic settlement and subsistence patterns, the prehistory and history of the vicinity, and DAHP's predictive model, the project area is considered highly sensitive for prehistoric, ethnohistoric, and historic-era cultural resources. Consequently, PCI completed an Unanticipated Cultural Resources Discovery Plan for the development of Lot Y (Appendix E of PCI's report attached as Appendix A to this memo).

Natural Investigations reviewed PCI's cultural resources report titled *Archaeological Survey, Testing and Monitoring at 45PI66, 45PI455 and 45PI773, DuPont Industrial Partners, LLC, Lot Y Project, City of DuPont, Pierce County, Washington* for the currently proposed development of Lot Y by Avenue 55, LLC and

- finds that the report is adequate for the currently proposed development of DuPont West Project;
- does not recommend any additional investigations for the currently proposed project because of the scale (e.g., excavation of 450 cubic meters of soil) and nature (e.g., soils remediation) of the previous investigations conducted across Lot Y;
- concurs with the findings in the report that sites 45PI00063, 45PI00064, 45PI00455, 45PI01224, and 45PI01225 do not meet the eligibility criteria for inclusion on the NRHP or the WHR;
- finds that sites 45PI01224 and 45PI01225 are not in the boundaries of the currently proposed DuPont West project on Lot Y;
- concurs with PCI that implementation of the previously proposed project that includes areas of Lot Y currently proposed for development would not affect any historic properties as defined at 36 CFR 800, the SEPA Checklist Section B, Number 13, and the DAHP;
- recommends that the inadvertent discovery plan prepared by PCI should be updated to include current contact information for individuals and agencies identified in the plan and be implemented for the currently proposed project as recommended in PCI's 2011 report; and
- pursuant to Washington state guidance recommends that appropriate representatives of the Native American community be contacted and informed of the currently proposed project.

In summary, Natural Investigations review of PCI's 2011 report determined that previous investigations and PCI's investigations are adequate for Avenue 55, LLC's currently proposed development of DuPont West on Lot Y and implementation of the DuPont West project would not affect any historic properties as defined at 36 CFR 800 and SEPA.

## REFERENCES CITED

Sikes, Nancy E., and Cindy J. Arrington

2011 *Archaeological Survey, Testing and Monitoring at 45PI66, 45PI455 and 45PI773, DuPont Industrial Partners, LLC, Lot Y Project, City of DuPont, Pierce County, Washington.* Report prepared by Parus Consulting, Inc. for DuPont Industrial Partners, LLC.

## **APPENDIX A:**

Archaeological Survey, Testing, and Monitoring at 45PI66, 45PI455 and 45PI773, DuPont  
Industrial Partners, LLC, Lot Y Project, City of DuPont, Pierce County, Washington.  
Report prepared by Parus Consulting, Inc. 2011

# CULTURAL RESOURCES REPORT COVER SHEET

Author: N. Sikes and C. Arrington

Title of Report: Archaeological Survey, Testing, and Monitoring at 45PI66, 45PI455, and 45PI773, DuPont Industrial Partners, LLC, Lot Y Project, DuPont, Washington

Date of Report: 4-14-2011

County(ies): Pierce Section: 26 Township: 19 N Range: 01E

Quad: Nisqually (1981) Acres: 25.3

PDF of report submitted (REQUIRED)  Yes

Historic Property Export Files submitted?  Yes  No

Archaeological Site(s)/Isolate(s) Found or Amended?  Yes  No

TCP(s) found?  Yes  No

Replace a draft?  Yes  No

Satisfy a DAHP Archaeological Excavation Permit requirement?  Yes #  No

DAHP Archaeological Site #:

\_\_\_\_\_  
\_\_\_\_\_  
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\_\_\_\_\_  
\_\_\_\_\_  
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- Submission of paper copy is required.
- Please submit paper copies of reports ***unbound***.
- Submission of PDFs is required.
- Please be sure that any PDF submitted to DAHP has its cover sheet, figures, graphics, appendices, attachments, correspondence, etc., compiled into one single PDF file.
- Please check that the PDF displays correctly when opened.

ARCHEOLOGICAL SURVEY, TESTING AND MONITORING AT 45PI66, 45PI455  
AND 45PI773, DUPONT INDUSTRIAL PARTNERS, LLC, LOT Y PROJECT

CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

Prepared For:

**DuPont Industrial Partners, LLC**

1201 Pacific Avenue, Suite 1501  
Tacoma, Washington 98402

Prepared By:

Nancy E. Sikes, Ph.D., RPA  
Cindy J. Arrington, M.S., RPA



1508 Eureka Road, Suite 170  
Roseville, CA 95661

Final – April 14, 2011

## ABSTRACT

This cultural resources investigation was conducted where DuPont Industrial Partners, LLC plans to develop a multi-building industrial park on Lot Y in the City of DuPont, Pierce County, Washington. The approximately 25.3-acre project is located on private land known as Lot Y (Assessor's Property Tax Parcel No. 0119262019) situated within the city limits west of Center Drive and north of Sequalitchew Creek. The work was conducted under an Archaeological Excavation Permit approved by the Washington State Department of Archaeology & Historic Preservation (DAHP) on February 7, 2011 (Permit No. 2010-54). The fieldwork included a pedestrian survey and examination of subsurface sediments in a series of 125 shovel test probes and 22 geotechnical exploration pits placed within Lot Y. The work was monitored by a member of the Nisqually Tribe.

No evidence was found of two previously recorded historic archaeological sites (45PI66 Methodist Episcopal Mission site and 45PI455 9th U.S. Cavalry Bivouac site) and one flaked stone isolate (45PI773), except for two brick fragments within the boundaries of 45PI66. Nor was there any evidence of two other archaeological sites (45PI63 Railroad Dump #3 site and 45PI64 Burning Ground Dump site) formerly located within Lot Y that were completely removed a decade ago during hazardous materials remediation. Two surface historic archaeological sites (45PI01224 railroad track segment and 45PI01225 concrete platform) and one isolated kerosene can were identified during the fieldwork within Lot Y, but they are not considered significant. One additional archaeological site (45PI01226 set of bridge abutments) located north of Sequalitchew Creek but immediately outside of Lot Y was also recorded. Except for two brick fragments, one flat iron bar and one can, no portable artifacts were identified; no artifacts were collected.

No significant cultural properties will be affected by the project, and no further cultural resource action is warranted at this time. Should cultural resources be discovered during project implementation, an Unanticipated Cultural Resources Discovery Plan is attached as an appendix to this report. This report will be filed with the DAHP and a copy provided to affected Tribes.

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APPENDIX E: Unanticipated Cultural Resources Discovery Plan

## INTRODUCTION

Parus Consulting, Inc. (PCI) was retained by DuPont Industrial Partners, LLC to provide cultural clearance in accordance with prevailing Washington state laws for the proposed Lot Y project in the City of DuPont. An Archaeological Excavation Permit (Permit) was approved by the Washington State Department of Archaeology & Historic Preservation (DAHP) on February 7, 2011 (Permit No. 2010-54) (Appendix A).

The Permit was required because two historic archaeological sites (45PI66 Methodist Episcopal Mission site and 45PI455 9th U.S. Cavalry Bivouac site) and one prehistoric isolate (45PI773) are located within the Lot Y project area (Figures 1 and 2). In 1993, site 45PI66 was determined eligible for listing on the National Register of Historic Places (NRHP) under Criterion A. Site 45PI455 is considered potentially eligible for NRHP listing. Both sites are considered contributing elements to a proposed Nisqually-Sequalitchew Historic District. Prior archaeological investigations of sites 45PI66 and 45PI455 in 1989 and 2000 included backhoe peels, shovel tests, and block and unit excavations. In addition, a portion of 45PI455 was monitored during a hazardous materials remediation program. No surface evidence of these two sites or the isolate remained within Lot Y.

Two additional historic sites (45PI63 Railroad Dump #3 site and 45PI64 Burning Ground Dump site) located within Lot Y were determined not eligible for NRHP listing in 1993. Both sites were completely removed during hazardous materials remediation in 2000.

The services completed by PCI under the Permit include intensive-level pedestrian survey, subsurface testing, monitoring of geotechnical exploration pits, preparation of this report summarizing the cultural resources investigation and related forms recording newly identified resources, and completion of an Unanticipated Cultural Resources Discovery Plan.

## PROJECT LOCATION AND DESCRIPTION

The project encompasses approximately 25.3 acres on private land known as Lot Y (Assessor's Property Tax Parcel No. 0119262019) located in the City of DuPont, Pierce County, Washington. Lot Y is located within the city limits west of Center Drive and north of Sequalitchew Creek. The Lot Y project area is situated within Section 26, Township 19 North, Range 01 East on the Nisqually 1981 USGS 7.5-minute topographic map (Willamette Meridian) (Figure 1).

The cultural resources excavations were conducted where the private landowner, DuPont Industrial Partners, LLC plans to develop a multi-building industrial park on Lot Y. The complex would include up to 12 buildings totaling approximately 340,000 square feet of building area, roadways, loading areas, approximately 650 parking spaces, and installation of underground utilities. Plans also include construction of a trail along the creek to the southwest of the industrial park.

Plans for public access along the creekside trail to be constructed to the south of the industrial park include erection of an interpretive sign explaining the history of the temporary encampment within Lot Y of the 9th U.S. Cavalry Buffalo Soldiers. The content of the sign will include reference to the war games enacted by the large contingent of Buffalo Soldiers from Fort Walla Walla in 1904, and the discovery of the stables area at 45PI455, the 9th U.S. Cavalry Bivouac site along Sequalitchew Creek.

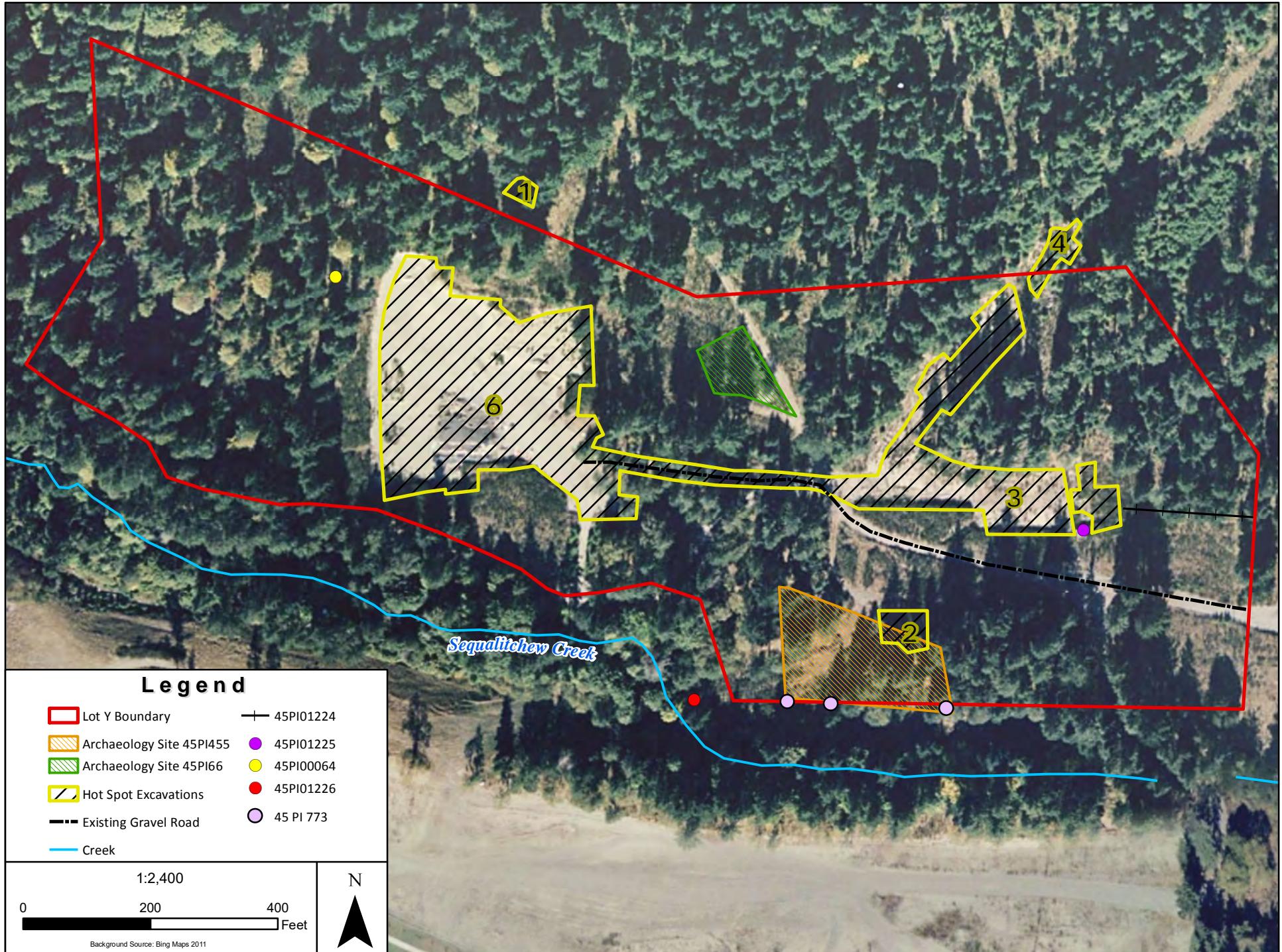
In addition, the existing historical marker erected by the DuPont Company in 1927 at the site of the former Methodist Episcopal Mission (45PI66) will be retained on the property. The marker will be moved to the trailhead area where the public will have continued access to read about the history of the Mission, the first religious institution on Puget Sound, established in 1840.



Quad Name: Nisqually PR 1981

T19N, R 1E, Section 26

DuPont Lot Y: Location Map



## REGULATORY SETTING

The Permit was completed pursuant to permit requirements found in the Washington Administrative Code (WAC) 25-48-060. There is no federal involvement in this project. The cultural resources investigation for the proposed project was conducted under prevailing Washington state laws, which serve to protect from known disturbance archaeological sites and Native American graves on both public and private lands. These laws include Executive Order 05-05, Indian Graves and Records (Revised Code of Washington [RCW] 27.44), Archaeological Sites and Resources (RCW 27.53), Archaeological Excavation and Removal Permit (WAC 25-48), and Discovery of Human Remains (RCW 27.44).

## PROJECT SETTING

### ENVIRONMENTAL SETTING AND DEPOSITIONAL CONTEXT

The project area is situated within the Puget Trough physiographic province (Franklin and Dyrness 1973) approximately 0.8 mile east of the southern part of Puget Sound shoreline and north of Sequalitchew Creek. Sequalitchew Creek drains the Edmond's Marsh area about 0.3 mile southeast of the project, and empties into Puget Sound approximately 1.5 miles northwest of the marsh. The Puget Trough is a basin that lies between the Coast Range to the west and the Cascade Range to the east.

The geomorphology of the project area is largely the result of Pleistocene glaciations. The last advance of a continental glacier through the Puget Trough began approximately 20,000 years ago when the Cordilleran Ice Sheet moved south from British Columbia. By 15,000 years ago, the Puget Lobe of this ice sheet extended some 19 miles south of the present city of Olympia (Orr and Orr 1996). Similar to other southern Puget Sound lowlands, glacial outwash deposits comprise the area in and around the project region.

Over time, soils forms on the glacial outwash sediments, with the addition of wind-blown volcanic ash. Within the project area are the deep, somewhat excessively drained Spanaway gravelly sandy loam soils (41A), which formed on the gravelly outwash deposits on terraces and plains (Soil Survey Staff 2009). A typical soil profile for this series is an A horizon of gravelly sandy loam (0-14 inches), a B horizon of very gravelly sandy loam (14-18 inches), above a C horizon of extremely gravelly sand (18-60 inches), with the cobble content increasing down profile.

Puget Sound and the Cascade Range, west and east of the project, influence the regional climate. Characteristic climatic conditions for this region include wet, mild winters and warm, dry summers, with the majority of annual precipitation falling as rain between October and March (Franklin and Dyrness 1988). Native vegetation found throughout much of the Puget Trough province is the *Tsuga heterophylla* (western hemlock) forest (Franklin and Dyrness 1973:16-17, 88). In addition to western hemlock, forest trees include Douglas fir (*Pseudotsuga menziesii*), cedar (*Thuja plicata*), and alder (*Alnus rubra*), along with other species in valley bottoms or forest margins and a variety of understory plants, ferns, and mosses. Prairie and marsh vegetation was historically recorded in the project vicinity near Sequalitchew Creek and Edmond's Marsh.

The saltwater and freshwater resources of the Puget Sound, its bays and inlets attracted exploitation and settlement prior to historic logging and development of this rich, ecologically diverse region. Among the wildlife once common to the region are black bear, bobcat, cougar, deer, elk, raccoon, red fox, and snowshoe hare, as well as a variety of waterfowl, fish, and shellfish.

## CULTURAL SETTING

### Prehistoric Overview

Occupation in western Washington during the prehistoric period is estimated to have occurred as early as 12,000 years ago (Ames and Maschner 1999). Prehistoric material culture in western Washington has been categorized according to “horizons” or “periods” that define technological, economic, social and ideological elements (Ames and Maschner 1999). During the Paleoindian Period (dating to 12,500 BP and earlier), people are thought to have been highly mobile hunter-gatherers whose toolkit included fluted Clovis projectile points.

The Archaic or Early Period (12,500–5,000 BP) saw an increase in sedentism reflected in more kinds of stone tool types and evidence of permanent villages. Within the Puget Sound and Strait of Juan de Fuca, artifacts from this period are referred to as “Olcott” after the type site in Snohomish County (Nelson 1990). Increasing populations, an increase in reliance on marine resources, and more complex socio-economic organization, as well as the appearance of ground stone and bone tools in the archaeological record, characterizes the Middle Period (5,000–2,500 BP) in the Puget Sound (Ames and Maschner 1999; Matson and Coupland 1995). During the last 2,500 years, the Late Period is characterized by the development of craft specialization and social stratification, establishment of permanent winter villages, and an increased reliance on marine resources.

### Ethnographic Overview

The project area is located in the traditional territory of the Puyallup Tribe who spoke the Puyallup Nisqually language of the Southern Coastal Salish language family. Their territory encompassed the Puyallup River drainage from Mount Rainier to Commencement Bay, and the uplands east of the Tacoma Narrows (Suttles and Lane 1990). Ethnographies indicate that the Puyallup relied on salmon as a dietary staple and secured additional natural resources from the surrounding saltwater, riverine and upland environmental settings. Their multi-family, plank-house villages were occupied during the winter months and typically situated adjacent to waterways. Smaller, seasonal camps were associated with hunting and gathering a variety of resources, including deer, elk, berries, and roots.

Ethnographic data indicate the Nisqually inhabited the area along the upper part of Sequalitchew Creek (Wessen et al. 2005, 2008). Sequalitchew Village was located at the mouth of the creek and described by the ethnographer as “where Dupont Creek enters the Sequalitcu River” (Smith 1940:8, 13). The village inhabitants would have pursued fishing, hunting and gathering from this winter village and from seasonal camps during the remainder of the year.

As part of the Medicine Creek Treaty of 1854, the Puyallup received a 1,280-acre tract extending along the high bluff from Commencement Bay to Point Defiance. By 1873, the reservation lands had been enlarged to 18,062 acres, and included lands on the southern and eastern side of Commencement Bay (Harmon 1995; Ruby and Brown 1986). Congress later established a commission to authorize sale of tracts with the Puyallup reservation, and by 1895 nearly half the acreage had been sold, including the waterfront properties.

### Historic Overview

Euro-American history began in western Washington with the coming of explorers as early as the 16th century. In 1792, the expedition by British explorer George Vancouver first encountered Twana and other Southern Coast Salish when sailing up Hood Canal and Puget Sound. U.S. Navy Lt. Charles Wilkes explored Hood Canal in 1841, and named Suquamish Harbor (later Squamish Harbor) as well as Pit Passage (now Pitt Passage). By 1846, the United States owned what is now western Washington as the U.S.–British boundary was moved north to the 49th parallel. American settlers poured into the area that

was then known as the Oregon Territory, established in 1848, and the Donation Land Claim Act was passed in 1850. The arrival of the first transcontinental railroad in the 1880s served to fuel settlement and economic development.

In the project vicinity, the Hudson's Bay Company (HBC) established a small storehouse for their fur trade near the mouth of Sequalitchew Creek as early as 1832 (Carpenter 1986). The following year they erected a small fort immediately east, and 10 years later in 1843, a much larger fort complex was established approximately 0.75 miles farther east (known as Fort Nisqually). To meet the demands for export of agricultural and dairy products, the company had established the Puget's Sound Agricultural Company (PSAC) by 1838. The 1843 fort was constructed near the buildings and structures comprising this enterprise. Although the treaty with Great Britain had required the removal of the HBC from United States territory, HBC/PSAC traders, farmers and dairymen continued to occupy the 1843 Fort Nisqually complex, to raise crops and to produce dairy products until compensation was received from the U.S. government in 1869. The lands were then titled to the last clerk of the company, Edward Huggins.

During the years between the departure of HBC/PSAC in 1869 and the development of the DuPont Powder Works in 1906, the area was populated by American settlers. The homesteaders used the land for farming and livestock grazing. In 1904, the 9th U.S. Cavalry camped, stabled their horses, and conducted war games near and within the project area on the prairies between Sequalitchew and Steilacoom Creeks (see Moura 1991a:8-9). The troops camped within the project area along Sequalitchew Creek were designated the Second Brigade, Camp Nisqually. Under the command of Colonel Charles H. Noble, the camp contained about 2,000 soldiers from Fort Walla Walla. The 9<sup>th</sup> U.S. Cavalry troops were African-American, referred to as Buffalo Soldiers.

Two years later, the DuPont Powder Works was established on the land by the E.I. DuPont de Nemours Company (Munyan 1972). In addition to an explosives manufacturing plant, the DuPont facilities included a company town, docks along the Puget Sound shoreline, and a narrow-gauge railroad used to transport their products. The "Old Town" period represents the time of the construction and early operation of the DuPont Powder Works (1906 into the early 1920s). During this period, buildings were frequently constructed and demolished. The construction of roads and the railway network, the annual clearing and burning of underbrush, as well as relatively frequent explosions, resulted in extensive land disturbance.

When DuPont Powder Works closed in 1976, it was purchased by the Weyerhaeuser Company. Many of the production buildings were burned prior to release of the property to Weyerhaeuser to prevent detonation of undetected explosives. During the last 20 years, Quadrant Corporation (formerly Weyerhaeuser Real Estate Company) has developed the planned community known as Northwest Landing in the project vicinity.

Photograph 1 shows the narrow-gauge railroad built by the DuPont Powder Works above the south side of Sequalitchew Creek (outside and south of Lot Y). The train is moving the last load of black powder that had been manufactured by the plant and subsequently stored in a warehouse rented by the city. This last powder run occurred circa 1990 (personal communication, Fred Foreman).



**Photograph 1. Last powder run on narrow-gauge (south side of Sequalitchew Creek)**

## **PREVIOUS ARCHAEOLOGICAL RESEARCH**

### **RESEARCH METHODS**

A cultural resources search was performed for the project on October 21, 2010 using the DAHP electronic GIS database to gather archaeological information relative to reports and sites within and in the vicinity of the project area. This information was supplemented with archival research into the history of this region and of archaeological investigations in the immediate project vicinity. This assessment considered previous studies, the magnitude and nature of the undertaking, the nature and extent of potential effects on historic properties, and the likely nature and location of currently unknown archaeological resources within the project area.

During the fieldwork program between February 17 and March 4, 2011, PCI archaeologist Cindy Arrington conducted additional archival and oral history research. Archival research at the City of DuPont History Museum included discussions with Museum Director Johanna Jones on the area's history and review of numerous documents and photographs. A map of the DuPont Works drawn by E. Davies and dated March 15, 1955 shows the "Burning Ground" within the Lot Y project area and the system of roads and narrow-gauge and standard-gauge railroad tracks crisscrossing within the plant boundaries. The map also shows two bridges on Sequalitchew Creek immediately south of the project area, which were used by the company's narrow- and standard-gauge railroads. A digital version of this map was provided by Fred Foreman, a lifetime resident of the City of DuPont and a former part-time, summer DuPont Powder Works employee. Mr. Foreman gladly conveyed his enthusiasm and knowledge of the history of this region, and spent time with Ms. Arrington. In addition to the Davies map, Mr. Foreman also provided DVDs of archaeological investigations in 1989 of 1833 Fort Nisqually and of an informal visit to the Methodist Episcopal Mission site (45PI66) during removal of contaminated soil at nearby site 45PI64 (Burning Ground Dump site). Along with photographs obtained from DAHP of the hot spot archaeological monitoring program carried out a decade ago by Daugherty and Condon (2000), the video of hazardous waste removal provided a clearer picture of the landscape within Lot Y prior to re-shaping by heavy mechanical equipment while removing contaminated topsoil.

### **LOCAL ARCHAEOLOGICAL INVESTIGATIONS**

The project vicinity is part of a complex cultural landscape with cultural resources dating from occupation of the area by Native Americans to historic period settlement—beginning in 1832 by the HBC with related agricultural activities started by the PSAC by 1838, and continuing through 70 years of industrial

development by the DuPont Company between 1906 and 1976. The following discussion focuses on studies within the former DuPont Powder Works property, which was acquired in 1976 by the Weyerhaeuser Company from E.I. DuPont de Nemours Company. As indicated in Table 1, several of these prior archaeological investigations have included all or portions of the current project area.

**Table 1. Prior Cultural Resources Investigations within or near Project Area**

Year	Author(s)	Report Title	Proximity to project
1977	Onat, A.R., Lee A. Bennett, and Timothy Riordan	Cultural Resources Survey: DuPont Site, Volume I, Survey of Archaeological and Ethnographical Resources at the DuPont Site	Within and near Lot Y
1977	Stratton, David H., and Glen W Lindeman	Cultural Resource Survey, DuPont Site, Volume II: Survey of Historical Resources at the DuPont Site	Within and near Lot Y
1989	Welch, Jeanne	A Cultural Overview and Comprehensive Management Plan for the DuPont Property, Pierce County, Washington	Within and near Lot Y
1990	Stilson, M. Leland	A Data Recovery Study of 45PI401, Hudson's Bay Dwellings at Northwest Landing, Pierce County, Washington	0.1 mile east
1991	Moura, Guy F.	Missions, War Games, and Railroad Dumps: 1989 Explorations and Excavations, Northwest Landing, DuPont, Washington	Within
1991	Stilson, M. Leland	A Data Recovery Study of 45PI405, the 1843 Fort Nisqually Village at Northwest Landing, Pierce County, Washington	0.1 mile east
2000	Daugherty, Richard, and Mary Condon	Archaeological Monitoring of the "Hot Spot" Removal Program, the Hazardous Waste Stockpile Areas, and Sand Stockpile Laydown Areas at the Former DuPont Works Site, DuPont, Washington	Within
2001	Daugherty, Richard, and Mary Condon	An Update on the Archaeological Status of Sites 45PI63 (A Trash Dump Located Along a Railroad Spur), 45PI64 (Burning Ground Dump), 45PI66 (Methodist Episcopal Mission), and 45PI455 (Part of the 9th Cavalry Bivouac Area)	Within and near Lot Y
2002	Maass, Alex	Interim Archaeological Monitoring Report for the Former DuPont Works Site, Parcel 1	Adjacent (to west)
2003	Maass, Alex	2002 Field Season Archaeological Monitoring Report for the Former DuPont Works Site, Parcel 1	Adjacent (to west)
2003	Wessen, Gary	Exploring the Boundary and Possible Interpretation of 45PI485	South of creek
2004	Wessen, Gary	Archaeological Testing at 45PI576, Former DuPont Works Site, City of DuPont, Pierce County, Washington	South of creek
2005	Dampf, Steven	Archaeological Monitoring Report for the 2003 and 2004 Field Seasons at the Former Dupont Works Site Parcel 1, City of DuPont, Pierce County, Washington	Adjacent (to west)
2005	Wessen, Gary, Cathy Bialas and Gail Thompson	Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near Lot Y
2006	Thompson, Gail	Archaeological Implementation Report for Remediation of Soils at the Former DuPont Works Site Parcel 1, City of DuPont, Pierce County, Washington	Adjacent (to west)
2008	Wessen, Gary, Cathy Bialas, Derek Shaw and Gail Thompson	Revised Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near Lot Y

The first intensive survey of the 3,000 acres comprising the former DuPont Powder Works property was completed over 30 years ago. A total of 26 cultural resources were identified during the survey, including 8 prehistoric and 18 historic sites (Blukis Onat et al. 1977). Blukis Onat and others (1977) studied the prehistoric and ethnohistoric sites identified within the surveyed area, while Stratton and Lindeman (1977) completed archival research on the historic period resources. The 26 sites include 1833 Fort Nisqually (45PI55), 1843 Fort Nisqually (45PI56), and the Sequalitchew Village site (45PI54). The 1833 Fort Nisqually site, located slightly more than 0.5 mile west of Lot Y, was listed on the NRHP in 1974 and is also listed in the Washington Heritage Register (WHR). Located approximately 0.2 mile southeast of Lot Y, the 1843 Fort Nisqually site (45PI56) is considered eligible for NRHP listing. The Sequalitchew

Village site, a historic property, is located at the mouth of Sequalitchew Creek approximately 1.5 miles west of Lot Y and contains remnants of a shell midden. Burials associated with the village were recorded as a separate site (45PI76), since they are located on the opposite, north side of the creek from the village.

As discussed further below, of the 26 sites recorded by Blukis Onat et al. (1977), three are located within Lot Y (45PI63 Railroad Dump #3, 45PI64 Burning Ground Dump, and 45PI66 Methodist Episcopal Mission Site). An additional 12 sites (2 prehistoric and 10 historic) of those identified during the 1977 survey are located within 0.5 mile of but outside Lot Y.

The extensive disturbance of the entire DuPont property by construction of numerous roadways and narrow-gauge railroad tracks, as well as the operations of the explosives manufacturing plant, was discussed in the report by Blukis Onat et al. (1977:57) and they recommended a more intensive survey might identify additional archaeological sites. Over ten years later, the former DuPont property was resurveyed again as part of the development of a Cultural Resources Management Plan for the Weyerhaeuser Company by Jeanne Welch (Welch 1989a). Each of the archaeological sites identified during the survey by Blukis Onat et al. (1977) was relocated, including the three within Lot Y (45PI63, 45PI64, and 45PI66). More intensive survey was accomplished in 1988 in areas planned by Weyerhaeuser for well or reservoir construction, or for logging, and the work included a testing and evaluation program developed to determine the significance of known cultural resources. Backhoes were used for sod removal in vegetated areas and for exploratory trenching.

The archaeologists also completed a testing program to identify significant cultural resources within the planned corridor for construction of Center Drive (Welch 1989a:4.2, 4.4). Center Drive trends north-south and is located 0.1 mile east of Lot Y. Two sites within the right-of-way of Center Drive on the north and south sides of Sequalitchew Creek were identified (45PI401 and 45PI405) (Welch 1989a, 1989b, 1989c). The sites are located just outside the west palisade wall of 1843 Fort Nisqually (45PI56). Each site contains the remains of HBC/PSAC dwellings, and a large number of historic as well as prehistoric artifacts were recovered from 45PI401 and 45PI405 during initial testing and subsequent data recovery excavations (Welch 1989a; Stilson 1990, 1991). The two sites are located only a short distance from Lot Y, approximately 0.1 mile to the east, and are discussed in more detail below.

Archaeological test excavations within Lot Y were conducted in 1989 by Guy Moura to identify the precise location of the buildings within the Methodist Episcopal Mission Site (45PI66), and to test the significance of Railroad Dump #3 (45PI63) (Moura 1991a; also see Daugherty and Condon 2001:Part I). He was also hired to investigate a third area within Lot Y where historic accounts indicated the 9<sup>th</sup> U.S. Cavalry had camped during military maneuvers in 1904 (later designated 45PI455) (Moura 1991a, 1991b; also see Daugherty and Condon 2001:Part I). Moura completed a series of backhoe peels, shovel test probes, and block and unit excavations within and near the boundaries of 45PI63, 45PI66, and 45PI455.

Under a Consent Decree signed in 1991 by the Washington State Department of Ecology, E.I. DuPont de Nemours Company and Weyerhaeuser Company, DuPont and Weyerhaeuser were jointly responsible for cleaning up an 841-acre tract, which had been contaminated by the former industrial explosives manufacturing facility (Thompson 2006:4). Archaeological monitoring of soil remediation activities and related archaeological investigations were carried out between 2001 and 2004. Detailed information on the monitoring is contained in reports by Alex Maass (2002, 2003) and Steven Dampf (2005). A large prehistoric chipped stone scatter (45PI576) was identified south of Sequalitchew Creek and south of Lot Y (Thompson 2006:21, 32). Two small projectile points suggest the site was occupied during the past 2,000 years, although the overall assemblage indicates there may be an older component. Because of the low density of artifacts recovered from testing in a highly disturbed setting, the site was recommended ineligible for NRHP listing. Two prehistoric isolates were also recorded south of the creek and

approximately 50 meters east of 45PI576. HRA 30a-d included one core, one flake, and two edge-modified flakes; HRA 31a-d included four basalt flakes (Thompson 2006:22).

Lot Y was included within the acreage under the Consent Decree requiring remediation of hazardous materials (mainly lead and arsenic contaminated soil) contained within the former DuPont property, and additional archaeological investigations revolved around remedial activities. The removal of contaminated soil in “hot spot” areas within Lot Y was monitored by archaeologists in 1999 and 2000, and included segments of the narrow gauge railroad tracks, Railroad Dump #3 (45PI63), the Burning Ground Dump site (45PI64), and a portion of the 9<sup>th</sup> U.S. Cavalry Bivouac site (45PI455) (Daugherty and Condon 2000:7) (Figure 2). After clearing and grubbing, excavation of the hot spots generally achieved a depth of 46 centimeters below surface (cmbs) (18 inches). The area around removal of a designated hot spot was expanded by 25 feet in each cardinal direction so the initial excavation area around a hot spot measured at least 50x50 feet.

During remediation activities, a historic debris deposit associated with the 1843 Fort Nisqually complex was identified to the south of Sequalitchew Creek. Southeast of Lot Y and near the two previously recorded HBS/PSAC dwelling sites (45PI401 and 45PI405), the deposit was recorded as 45PI485 (Daugherty and Condon 2000).

A comprehensive document reporting on the subsurface testing or hot spot monitoring at the four known sites within Lot Y (45PI63, 45PI64, 45PI66, and 45PI455) was completed the following year (Daugherty and Condon 2001:Parts I and II). Part I of that document is Moura’s report on the test excavations completed in 1989 at 45PI63, 45PI66, and 45PI455 (also see Moura 1991a, 1991b). Part II of that document reproduced and updated the information at all four sites from the hot spot removal program reported by Daugherty and Condon (2000).

Beginning in 1993, Richard Daugherty evaluated the significance of a number of the archaeological sites within the former DuPont Powder Works property and prepared National Register nomination forms for them. These included the four sites within Lot Y (45PI63, 45PI64, 45PI66, and 45PI455), as well as the two HBC/PSAC dwelling sites east of Lot Y (45PI401 and 45PI405), discussed below.

In January 2005, during a survey for the proposed expansion of an existing gravel mine, the four sites (45PI63, 45PI64, 45PI66, and 45PI455) previously recorded in the project area were relocated, but no effort was made to further investigate them since each had been previously evaluated (Wessen et al. 2005:15). No potentially significant archaeological sites were newly identified during the surface survey, and it was decided to investigate the areas close to Sequalitchew Creek by subsurface testing. The subsequent recovery of four pieces of chipped stone debitage from a series of shovel test probes was recorded as a prehistoric isolate (45PI773) (Wessen et al. 2005, 2008) (Figure 2).

## PREVIOUSLY RECORDED CULTURAL RESOURCES NEAR PROJECT AREA

As noted above, 12 (2 prehistoric and 10 historic) of the 26 sites recorded by Blukis Onat et al. (1977) are located within 0.5 mile of but outside Lot Y (Table 2). As shown in the table, an additional 13 sites (2 prehistoric and 11 historic) and 5 isolates (2 prehistoric and 3 historic) have been previously recorded within 0.5 mile of but outside Lot Y. According to the records, one historic (45PI58) and one prehistoric site (45PI75) may have never existed. The three remaining pre-Contact sites include two burial sites (45PI77, 45PI404) and a chipped stone scatter (45PI576).

The previously recorded historic sites are mainly associated with the HBC/PSAC era and the Old Town period. The Old Town period represents the time of the construction and early operation of the DuPont Powder Works (1906 into the early 1920s). Eight of the historic-era sites are associated with the earlier HBC/PSAC period (1832–1869). These include 1843 Fort Nisqually (45PI56), the remains of Archeological Survey, Testing & Monitoring at 45PI66, 45PI455 and 45PI773, Lot Y Project, DuPont Pierce County

ethnohistoric men's dwelling houses (45PI74), three burial sites (45PI78, 45PI413, 45PI451), two sites with house foundations and artifacts (45PI401, 45PI405), and a debris deposit (45PI485). The artifacts from one site (45PI563) date from both the HBC/PSAC and Old Town periods.

Seven of the previously recorded sites are attributed to the DuPont Powder Works Old Town period. These include a men's boarding house (45PI57), the Old Town dump (45PI59), a domestic trash dump (45PI60), two debris deposits or scatters associated with the narrow gauge railroad that transported the explosives (45PI61, 45PI62), the munitions plant (45PI70), a remnant of a dirt road (45PI441), and a recently recorded non-functional segment of narrow-gauge railroad track and berm (45PI01224). 45PI01224 was identified during survey in 2010 of the 12.8-acre property (known as Lot X) adjacent to the eastern edge of Lot Y (Sikes and Arrington 2010). The narrow-gauge track and berm continue to the west beneath a chain-link fence into Lot Y.

One of the historic period sites is the garbage dump (45PI448) used by the city of DuPont from 1927 to 1946. The two remaining historic-era sites include one with 100 to 200-year old human skeletal fragments (45PI712) and a debris scatter with artifacts ranging in age from 1916 to the mid-1960s (45PI783).

The two prehistoric isolates identified within the 0.5 mile radius were recorded south of Sequalitchew Creek during archaeological monitoring of soil remediation activities within the Consent Decree area (Thompson 2006:22). The isolates are located approximately 50 meters east of 45PI576, a large prehistoric chipped stone scatter south of the creek and south of Lot Y. HRA 30a-d included one core, one flake, and two edge-modified flakes; HRA 31a-d included four basalt flakes.

The three historic-era isolates were identified recently during the recent survey of Lot X (Sikes and Arrington 2010). The isolates are located approximately 400 feet east of Lot Y. GEO Isolate #1 is a surface pile of 51 railroad spikes; GEO Isolate #2 is a pile of broken, formed aggregate concrete chunks; and GEO Isolate #3 is a scatter of milled lumber.

Of the previously recorded sites within the 0.5 mile radius outside Lot Y, three are considered eligible for NRHP listing: the 1843 Fort Nisqually site (45PI56) and the two HBC/PSAC dwelling sites (45PI401, 45PI405). The latter two sites are also considered contributing elements to the proposed Nisqually-Sequalitchew Historic District (Point Nisqually Defense Fund 2003) (see discussion below).

Outside the 0.5 mile radius, nearby historic properties include 1833 Fort Nisqually (45PI55), the Sequalitchew Village Site (45PI54), the DuPont Village Historic District, and Fort Lewis. Throughout its period of significance (1917–1948), Fort Lewis was one of the preeminent U.S. Army training posts. The DuPont Village Historic District encompasses the 43-acre company town developed by E.I. DuPont de Nemours Company between 1906 and 1915. The district is located less than 1 mile southeast of Lot Y.

**Table 2. Previously Recorded Resources within 0.5 Mile of Project Area**

Site No.	Brief Description	Historic Period	Recorded by and year	NRHP Eligibility
45PI00056	Historic 1843 Fort Nisqually (1832-1869)	HBC/PSAC	Riordan 1977; Daugherty 1993 NRHP form	Eligible
45PI00057	Historic men's boarding house, DuPont era; destroyed	Old Town	Riordan 1977; Daugherty 1993 NRHP form	Not eligible
45PI00058	Site recorded as historic brick yard dump but it never existed	n/a	Riordan 1977; Daugherty 1993 NRHP form	Not eligible
45PI00059	Historic Old Town dump, 1906-1909	Old Town	Riordan 1977; Daugherty 1993 NRHP form	Not eligible

Site No.	Brief Description	Historic Period	Recorded by and year	NRHP Eligibility
45PI00060	Historic domestic trash dump, DuPont Powder Works, 1906-1909	Old Town	Riordan 1977; Daugherty 1993 NRHP form	Not eligible
45PI00061	Historic railroad or domestic debris deposit	Old Town	Riordan 1977; Daugherty 1993 NRHP form	Not eligible
45PI00062	Historic railroad debris deposit, ca. 1906-1909	Old Town	Riordan 1977; Daugherty 1993 NRHP form	Not eligible
45PI00070	Historic DuPont munitions plant, ca. 1906	Old Town	Riordan 1977	Not determined
45PI00074	Ethnographic men's dwelling houses, 1844-1869, Fort Nisqually	HBC/PSAC	Blukis Onat 1977; Daugherty 1992; Daugherty 1993 NRHP form	Not determined
45PI00075	Site recorded as a prehistoric midden at DuPont crystallizer but it never existed	n/a	Blukis Onat 1977; Daugherty 1993 NRHP form	Not eligible
45PI00077	Old Fort Lake Graves	Pre-Contact	Blukis Onat 1977	Not determined
45PI00078	Historic 1843 Fort Nisqually burial	HBC/PSAC	Blukis Onat 1977	Not determined
45PI00401	Historic Hudson's Bay house; historic and prehistoric artifacts; ca. 1845-1869	HBC/PSAC	Welch 1988; Daugherty 1993 NRHP form	Eligible, included in proposed Nisqually-Seqalitcnew Historic District
45PI00404	Pre-Contact Nisqually Indian Burial Site	Pre-Contact	Welch 1988; Daugherty and Wessen 1988	Not determined
45PI00405	Historic Hudson's Bay house foundations, historic and prehistoric artifacts, ca. 1845-1869	HBC/PSAC	Welch 1988; Daugherty 1993 NRHP form	Eligible, included in proposed Nisqually-Seqalitcnew Historic District
45PI00413	Historic Native American cemetery, 1840-1870	HBC/PSAC	Daugherty 1991	Not determined
45PI00441	Historic dirt road remnant, 1846	Old Town	Solimano 1996	Recommended not eligible
45PI00448	Historic City of DuPont garbage dump, 1927-1946	DuPont	Daugherty 1996; Daugherty 1996 NRHP form	Not eligible
45PI00451	Historic Lone Fir grave site, 1850	HBC/PSAC	Daugherty 1997	Not determined
45PI00485	Historic debris deposit, ca. 1840-1870	HBC/PSAC	Daugherty 2000; Wessen 2002	Not determined
45PI00563	Historic debris scatter, 1843-1930s	HBC/PSAC and Old Town	Chesmore 2001, 2002; Wilson 2002 NRHP form	Not eligible
45PI00576	Prehistoric chipped stone scatter	prehistoric	Wessen 2004	Recommended not eligible
45PI00712	Human skeletal fragments, ca. 100-200 yrs old		Wessen 2003	Not determined
45PI00783	Historic debris scatter, 1916-1964		McKillip 2007	Not eligible
45PI1224	Historic railroad track and berm, 1906-1920s	Old Town	Arrington 2010	Not eligible
GEO Isolate #1	Historic isolate (railroad spikes)		Arrington 2010	Not eligible
GEO Isolate #2	Historic isolate (concrete chunks)		Arrington 2010	Not eligible

Site No.	Brief Description	Historic Period	Recorded by and year	NRHP Eligibility
GEO Isolate #3	Historic isolate (milled lumber)		Arrington 2010	Not eligible
HRA 30a-d	Prehistoric isolate (core, 3 flakes)		Thompson 2006	Not eligible
HRA 31a-d	Prehistoric isolate (4 flakes)		Thompson 2006	Not eligible

### PREVIOUSLY RECORDED SITES AND ISOLATE WITHIN PROJECT AREA

One prehistoric isolate (45PI773) and four historic archaeological sites (45PI63 Railroad Dump #3, 45PI64 Burning Ground Dump, 45PI66 Methodist Episcopal Mission Site, and 45PI455 9th U.S. Cavalry Bivouac site) have been previously recorded within the project area (Table 3; Figure 2). One of the historic sites (45PI66) is associated with the HBC/PSAC era (1832-1869) and one (45PI63) with the Old Town period (1906-early 1920s). Site 45PI64 is associated with later operation of the explosives manufacturing plant from the 1930s until the plant closed in 1945. Temporary occupation by the 9th U.S. Cavalry (45PI455) occurred in 1904 between the HBC/PSAC and Old Town periods.

Site 45PI66 has been determined eligible for listing on the NRHP, and site 45PI455 is potentially eligible. These two sites are also encompassed within the proposed Nisqually-Sequalitchew Historic District as contributing elements. The district is still pending approval.

Of the four previously recorded sites within Lot Y, two (45PI63 Railroad Dump #3 site and 45PI64 Burning Ground Dump site) had been determined not eligible for NRHP listing and were completely removed during hazardous materials remediation in 1999 and 2000 (Daugherty and Condon 2000, 2001). These former sites were located within two of the cleared hot spots (HS-4 and HS-6) shown on Figure 2.

Although not located within Lot Y, this section and Table 3 include discussion of two additional sites that contain artifacts or features representing former HBC/PSAC dwellings associated with 1843 Fort Nisqually. The two sites, 45PI401 and 45PI405, are located on the north and south banks of Sequalitchew Creek approximately 0.1 mile east of Lot Y. The sites also contain a large number of chipped stone artifacts.

The history of archaeological investigations at each of these resources within and near Lot Y is presented below.

**Table 3. Previously Recorded Cultural Resources within and near Project Area**

Site No.	Brief Description	Historic Period	Recorded by and year	Prior Reports	NRHP Eligibility
<b><i>Sites and Isolate Recorded within Project Area</i></b>					
45PI00063	Historic debris deposit, two loci along railroad, 1910-1930; removed during soil remediation	Old Town	Riordan, 1977; Daugherty, 1993 NRHP form	Blukis Onat et al., 1977; Welch, 1989a; Moura, 1991a; Daugherty and Condon, 2001	Not eligible
45PI00064	Historic DuPont Powder Works burning ground dump, 1930s-1945; removed during soil remediation	DuPont	Riordan, 1977; Daugherty, 1993 NRHP form	Blukis Onat et al., 1977; Welch, 1989a; Daugherty and Condon, 2000, 2001	Not eligible

Site No.	Brief Description	Historic Period	Recorded by and year	Prior Reports	NRHP Eligibility
45PI00066	Historic 1840-1842 Methodist Episcopal Mission	HBC/PSAC	Riordan, 1977; Daugherty, 1993 NRHP form	Blukis Onat et al. , 1977; Welch, 1989a; Moura, 1991a; Daugherty and Condon, 2000, 2001	Eligible, included in proposed Nisqually- Sequalitchew Historic District
45PI00455	Historic 9th U.S. Cavalry Bivouac, Camp Nisqually, 1904; partially removed during soil remediation	Between HBC/PSAC and DuPont	Daugherty, 1997; Daugherty, 1997 NRHP form	Moura, 1991a, 1991b; Daugherty and Condon, 2000, 2001	Potentially eligible, included in proposed Nisqually- Sequalitchew Historic District
45PI00773	Prehistoric chipped stone isolate	n/a	Wessen, 2005	Wessen et al., 2005, 2008	Not eligible
<i>Sites Recorded near Project Area</i>					
45PI00401	Historic Hudson's Bay house; historic and prehistoric artifacts; ca. 1845-1869; destroyed during bridge construction	HBC/PSAC	Welch, 1988; Daugherty, 1993 NRHP form	Welch, 1989a; Stilson, 1990	Eligible, included in proposed Nisqually- Sequalitchew Historic District
45PI00405	Historic Hudson's Bay house foundations, historic and prehistoric artifacts, ca. 1845-1869; destroyed during road partially construction	HBC/PSAC	Welch, 1988; Daugherty, 1993 NRHP form	Welch, 1989a; Stilson, 1991	Eligible, included in proposed Nisqually- Sequalitchew Historic District

### 45PI63 Railroad Dump Site

This site was initially recorded by Timothy Riordan as Railroad Dump #3 during the survey of the former DuPont Powder Works property by Blukis Onat et al. (1977). The dump is located at the junction of two narrow-gauge railroad tracks from the DuPont Powder Works Old Town period. Recorded in two distinct loci (A and B, each of which was approximately 10 meters in diameter), a dirt road developed after the track was abandoned may have split the debris deposit.

Material from the site mainly dates between 1910 and 1930 (the Old Town period) and includes mainly domestic ceramic and glass fragments, with a few nails and fabric remnants (Daugherty and Condon 2001; Moura 1991a; Daugherty 1993a). Over 260 artifacts were collected in 1989, mainly from the ground surface along the tracks, with only a single 1x1 meter test unit excavated in Area B (Moura 1991a:13-17). Additional artifacts were recovered during subsequent soil remediation activities in loci A and B (Daugherty and Condon 2001:32-46). The recovery of mainly domestic items led Daugherty and Condon (2001:46) to conclude that occupants of Old Town had used 45PI63 as a dump.

In 1993, the State Historic Preservation Officer (SHPO) determined site 45PI63 ineligible for NRHP listing (see October 19, 1993 memorandum and NRHP Determination of Eligibility Form). The site has been extensively looted (Welch 1989a:4.20; Thompson 2006:27), and prior to soil remediation, there had been extensive damage to the site by logging and railroad construction. No treatment measures were required during soil remediation, which removed the entire site (Daugherty and Condon 2001:46). Prior to removal, 45PI63 was located in the area on Figure 2 marked as HS-4.

### 45PI64 Burning Ground Dump Site

This site was initially recorded by Timothy Riordan during the survey of the former DuPont Powder Works property by Blukis Onat et al. (1977). At the location of a former black powder manufacture and storage building, site 45PI64 was used as a dump where hazardous and non-hazardous waste from the manufacturing plants at the DuPont Powder Works was discarded and burned. The site was used as a burning ground dump from the 1930s until the black powder mill was closed in 1945. The “Burning

Ground" is clearly shown on the 1955 map of the DuPont Works drawn by E. Davies. Prior to turning the property over to Weyerhaeuser, DuPont systematically dynamited this site to prevent detonation of undetected explosives (Thompson 2006:30).

Due to contamination by hazardous waste, archaeological work within site 45PI64 was not permitted. In 1993, the SHPO determined the site ineligible for NRHP listing (see October 19, 1993 memorandum and NRHP Determination of Eligibility Form). Archaeological monitoring during a program to remove "hot spots" or contaminated soils was conducted at the site in 2000 (Daugherty and Condon 2000), and the entire area (approximately 3,000 square feet) was removed during the subsequent hot-spot treatment program (Daugherty and Condon 2001:47, 50). Prior to removal, 45PI64 was located in the large cleared area marked as HS-6 on Figure 2.

Although former site 45PI64 was near the historical marker for the Methodist Episcopal Mission (45PI66), no evidence of the Mission building or stockade or of prehistoric or historic cultural materials were identified during hot spot removal, with the exception of contaminated, broken tools and hardware from the DuPont operation.

### **45PI66 Methodist Episcopal Mission Site**

Initially recorded during the survey by Blukis Onat et al. (1977), this site has been determined eligible for NRHP listing under Criterion A (association with significant events) (NRHP Determination of Eligibility Form dated September 29, 1993). The site is not considered eligible under Criterion D (data potential) because it has been extensively disturbed by road and railroad construction and there has been little recovery of archaeological material during testing. Site 45PI66 also contributes to the proposed Nisqually-Sequalitchew Historic District (see below).

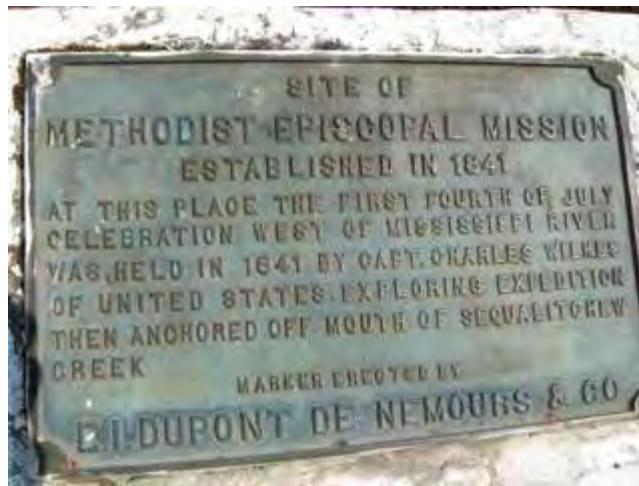
The Methodist-Episcopal Mission and associated school were founded in 1834 on land provided by the HBC. The goal was to convert and educate the Native Americans camping at Fort Nisqually (Carpenter 1986:98-99). Construction of the Mission buildings began in 1839 and a missionary group began services the following year. Several outbuildings and a garden were contained within the Mission grounds, which were surrounded by a stockade and located approximately 0.5 mile from the fort. The Mission building measured 18 feet wide by 32 feet long and 9 feet high, and an addition was constructed on the west side. The Mission was not successful, was abandoned in 1842, and later destroyed by fire. The land was also used for agriculture and in 1904 it was temporarily occupied by the military on training maneuvers. In 1927, the DuPont Company erected a historical marker at the site of the former Mission—the first religious institution on Puget Sound (Photographs 2 and 3).

Archaeological investigations (backhoe peels, shovel tests, 1x2 meter units) around the historical marker were conducted in 1989 (Welch 1989a; Moura 1991a). Some 29 backhoe peels were made in the area surrounding the bronze marker, but no evidence of the former Mission building was uncovered and additional testing was recommended (Welch 1989a:4.1, 4.22). Moura's team recovered chimney stones, 2 square nails, 3 window glass and 9 bottle glass fragments, and a couple pieces of ceramic (Moura 1991a:6-8). Excavation efforts (55 shovel tests and four 1x2 meter units) were stopped by 25 cmbs (0.8 feet) when sterile gravels were encountered, similar to other sites in this vicinity.

Moura (1991a:8) considered the accumulated evidence supported his contention that the Methodist-Episcopal Mission had been found. He also noted that the ashy matrix with brick, bone, and charcoal flecks in the excavation units above 25 cmbs (0.8 feet) at 45PI66 mimics that identified at the nearby HBC/PSAC dwellings site (45PI405) as hearth and chimney remnants, as discussed in the data recovery report on that site by Stilson (1991). Site 45PI405 is associated with the 1843 Fort Nisqually.



**Photograph 2. Marker at Methodist-Episcopal Mission Site (45PI66)**



**Photograph 3. Text of 1927 marker erected by the DuPont Company (plan view)**

Eleven years later, contrary to expectations, no evidence of the Mission building or stockade was identified during archaeological monitoring of contaminated soil removal at nearby site 45PI64 (Burning Ground Dump site) (Daugherty and Condon 2000; Daugherty and Condon 2001:47-48). Although chimney stones were identified at 45PI66 during the testing by Moura in 1989, archaeologists have debated about whether the stones and other artifacts identify the exact location of the Mission building. Daugherty and Condon (2001:48), for example, believe Moura's results are equivocal, although they do state "there appears to be little question that the actual location of the Mission is within a few hundred yards or so of the monument" erected by the DuPont Company.

#### **45PI455 9th U.S. Cavalry Bivouac Site**

Historic records indicate about 2,000 men were bivouacked at "Camp Nisqually" for a few months in 1904. The 9<sup>th</sup> U.S. Cavalry (also known as Buffalo Soldiers) practiced mock battles at the edge of the prairie north of Sequalitchew Creek. After the mock battles ended, the camp and surrounding area were cleared and the refuse burned before the troops departed for return to Fort Walla Walla.

Archaeological investigations (backhoe peels, block and unit excavations) within a 120 square meter area conducted by Moura in 1989 recovered over 800 artifacts and 170 small, burned animal bone fragments (deer, sheep/goat food remains) below the surface (Moura 1991a, 1991b). The artifacts include horseshoes, horseshoe nails, horse teeth, harness tackle, square and wire nails, burned bone fragments, a 1901 dime, and a 1903 rifle cartridge, all associated with the cavalry encampment. Liquor bottles and shotgun shells date to late 19<sup>th</sup> century use of the area, while prehistoric occupation is evidenced by chipped stone tools (2 knives) and debitage (5 flakes) made from a variety of toolstone (petrified wood, chert, and basalt). Two railroad spikes date to after the DuPont Powder Works was established in 1906. Similar to other sites in this vicinity, sterile gravels were encountered within 30 cmbs (1 foot) (Moura 1991a:9, 1991b:1). There was no surface evidence of the site.

A site number (45PI455) was assigned to the 9<sup>th</sup> U.S. Cavalry Bivouac area following the test excavations completed by Moura in 1989. The site measures approximately 225 by 100 meters (738 by 328 feet), and historic documentation indicates the artifact assemblage represents the temporary stable area (Moura 1991a:12, 1991b:5). In 1998, State Archaeologist Robert Whitlam indicated this site is potentially eligible for NRHP listing and recommended further work to define the boundaries of the Native American and Buffalo Soldier occupations (letter to Richard Daugherty dated February 17, 1998). Site 45PI455 is also

considered potentially eligible for NRHP inclusion as part of the proposed Nisqually-Sequalitchew Historic District (see below).

Additional work at site 45PI455 during archaeological monitoring of contaminated soil removal uncovered no further evidence of this brief occupation by the Buffalo Soldiers (Daugherty and Condon 2000, 2001). Although the bivouac area was encompassed within the targeted hot spots (HS-2 on Figure 2), the remediation program did not include the “stable” area excavated by Moura in 1989 (Moura 1991a, 1991b).

### **45PI773 Prehistoric Chipped Stone Isolate**

This chipped stone isolate was recorded in 2005 by Gary Wessen during survey and excavation of subsurface shovel test probes along Sequalitchew Creek for the proposed expansion of an existing gravel mine (Wessen et al. 2005, 2008). The isolate consists of a total of four pieces of debitage (one complete secondary flake and three flake fragments) manufactured from basalt or dacite. The material was encountered within an approximately 40 x 30 meter area, with one artifact close to the surface in a previously disturbed, very dark brown gravelly sandy loam. The remaining three artifacts were recovered potentially in situ between 30 and 50 cmbs (1-1.6 feet) in a dark yellowish brown gravelly sandy loam.

The archaeologists had placed a series of 31 shovel test probes in this area, 26 of which were arranged at 10-meter intervals along a single east-west trending line located approximately 5 meters north of the northern edge of the creek (Wessen et al. 2008:29). The four pieces of chipped stone were recovered from a section of the test line that was approximately 40 meters long. Of the five probes in the section, four contained a flake or flake fragment. None of the four probes contained more than one artifact. Five additional shovel test probes were excavated in three lines extending northward away from the creek, but no artifacts were recovered. Each probe measured approximately 30 to 38 cm in diameter.

The soil profile in the vicinity of the chipped stone isolate is described as having three strata (Wessen et al. 2008:30). The upper stratum is a very dark brown (10YR 2/2) gravelly sandy loam ranging in thickness from 8 to 25 cm. Next is a dark yellowish brown (10YR 3/4) gravelly sandy loam with a thickness of 40 to 50 cm, followed by a dark yellowish brown gravelly sand with cobbles. Small charcoal fragments were recovered from the two sandy loam horizons. In addition to one piece of debitage, the upper horizon contained a small quantity of concrete rubble, one square nail, and a mammal bone fragment, which suggested the stratum had been previously disturbed.

Isolate 45PI773 is located near site 45PI455, the 9<sup>th</sup> U.S. Cavalry Bivouac site, along the north side of the upper edge of Sequalitchew Creek. It is unknown if the four pieces of debitage recovered at 45PI773 are related to the prehistoric chipped stone artifacts (2 knives and 5 flakes) recovered during the 1989 test excavations at 45PI455 (Moura 1991a, 1991b; Wessen et al. 2008:30). Since little information on prehistoric occupation of this area can be provided by the few pieces of debitage recovered from the discontinuous subsurface probes, isolate 45PI773 was recommended ineligible for NRHP listing (Wessen et al. 2008:32).

### **Nisqually-Sequalitchew Historic District (proposed)**

Proposed by the Point Nisqually Defense Fund (2003), this historic district would cover approximately 360 acres along both sides of Sequalitchew Creek. Thirteen archaeological sites are identified in the NRHP nomination form as contributing elements. These include 45PI66 and 45PI455 within Lot Y, as well as 45PI401 near Lot Y, in the northern extent of the proposed district. The district has not yet been approved. The nomination assumes undisturbed deposits remain at the sites in sufficient quantity and diversity to address research questions related to the history of the district. It is unclear if intact remains

exist at the sites and if so, whether the deposits would contain the data required to address the research questions.

### **45PI401 HBC/PSAC Dwelling Site**

Located approximately 0.1 mile east of Lot Y, site 45PI401 was identified in 1988 on the north bank of Sequalitchew Creek during survey of the right-of-way for then-planned Center Drive (Welch 1989a:4.28). The site had been previously disturbed by DuPont Company development, including the Old Town complex and railroad, and cattle grazing. Data recovery investigations at the site ensued and 5,000 historic and 100 prehistoric artifacts, foundation remains, a shell concentration, and fire pits were identified (Stilson 1990, 1991; Daugherty 1993b). The lithic assemblage includes 10 projectile points, 6 utilized flakes, 1 scraper, 1 ground stone adze blade, and 82 modified or non-utilized flakes (Stilson 1990:47). The investigation covered 450 square feet and included shovel test probes, backhoe peels and trenches, 1x2 meter units, and 1x1 meter units. There was a rapid decrease in the frequency of artifacts as the distance of the shovel test probes, which extended 30 meters to the west, increased away from the site.

Site 45PI401 is the location of former HBC/PSAC dwellings associated with 1843 Fort Nisqually (45PI56). The site is located just outside the west palisade wall of the fort. The two dwellings date from the 1840s to 1850s, and may have been that of a dairyman and of a Nisqually tribal member who was in charge of the dairy after ca. 1850 (Stilson 1990:121). In Stilson's view (1990:119), the large number of lithic artifacts is associated with the Nisqually tribesman employed by PSAC. It is also feasible, however, that the material represents Native American occupation of the area prior to nonindigenous settlement. The site is considered eligible for NRHP inclusion and contributes to the proposed Nisqually-Sequalitchew Historic District. It was destroyed during construction of a bridge over Sequalitchew Creek.

### **45PI405 HBC/PSAC Dwelling Site**

Located approximately 0.1 mile east of Lot Y, site 45PI405 was identified in 1988 on the south bank of Sequalitchew Creek during survey of the right-of-way for Center Drive (Welch 1989a:4.28). The site was also located at the junction of two DuPont Company access roads, and had been previously disturbed by DuPont Company development, including the Old Town complex and railroad, and cattle grazing. Similar to site 45PI401, this site also contains HBC/PSAC structural remains associated with 1843 Fort Nisqually as well as over 53,000 artifacts, including Native American lithics, which were recovered during data recovery investigations (Stilson 1991; Daugherty 1993c). The area investigated totaled 2,756 square feet. The lithic assemblage includes 52 tools/tool fragments and 89 pieces of debitage. Similar to the chipped stone found at 45PI401, the lithics may have been associated with the historic period or perhaps earlier.

Site 45PI405 is located just outside the west palisade wall of 1843 Fort Nisqually (45PI56). It is considered eligible for NRHP inclusion and contributes to the proposed Nisqually-Sequalitchew Historic District. Situated within and straddling Center Drive, the majority of the site was destroyed during construction of the roadway.

## **TRIBAL CONSULTATION**

The inventory for the Permit involved correspondence with cultural representatives or Tribal Historic Preservation Officers (THPOs) for the Nisqually, Puyallup and Squaxin Tribes (see Appendix B). A phone call was received from Joe Kalama of the Nisqually Tribe expressing their desire to monitor the subsurface investigations. We contacted the Tribe again as the date for the fieldwork approached, and Kareem Gannie served as the project Native American monitor for survey and subsurface testing.

## RESEARCH DESIGN

### ARCHAEOLOGICAL EXPECTATIONS

Based on the literature review and history of this region, the project area has a high sensitivity for the presence of prehistoric and historic cultural resources. Similarly, the DAHP predictive model shows the area as “Very High Risk.” The project area is within the traditional territory of the Nisqually Tribe along Sequalitchew Creek and relatively near the village at the mouth of the creek. Chipped stone tools have been found within Lot Y (45PI773) and in close proximity to the project (45PI401, 45PI405, 45PI576), and Native American burials within a 0.5-mile radius of Lot Y (Tables 2 and 3). The project is also within an area that was settled in the early 1880s during the HBC/PSAC era, an area used in 1904 by the 9th U.S. Cavalry bivouac and war games, the Old Town period of the DuPont Powder Works and its railroad network, and the early years of today’s city of DuPont. A variety of historic period artifacts, features or deposits have been previously identified within Lot Y (45PI63, 45PI64, 45PI66, 45PI455) and in close proximity to the project (e.g., 45PI401, 45PI405), and historic period burials found within the 0.5-mile radius (Tables 2 and 3).

The project area has been extensively disturbed throughout the historic period, beginning by construction of the Methodist Episcopal Mission (45PI66) during the HBC/PSAC era and related removal of old growth trees, agricultural practices and cattle grazing, and by construction of the DuPont plant facilities and railroad network (45PI63, 45PI64). Extensive land disturbance during DuPont’s Old Town period in the early 1900s resulted from logging, land leveling, the frequent construction and demolition of buildings, road and railway network construction, annual clearing and burning of underbrush, and relatively frequent explosions. Site 45PI64 was the location of a former black powder manufacture and storage building, and the site was also used as a dump where hazardous and non-hazardous waste from the DuPont Powder Works plants was discarded and burned. In addition, many of the production buildings were burned prior to release of the property to Weyerhaeuser after the DuPont Powder Works closed in 1976.

More recently, contaminated soil remediation activities resulted in extensive damage to the landscape within the project area and included complete removal of two of the archaeological sites (45PI63 and 45PI64) and partial removal of a third site (45PI455). Methods used during the remediation program included clearing and grubbing of vegetation subsequent to locating and flagging each hot spot (Daugherty and Condon 2000:7). The excavations generally achieved a depth of 46 cmbs (1.5 feet), and each initial excavation area around a hot spot measured at least 50x50 feet, since the area around removal of a designated hot spot was expanded by 25 feet in each cardinal direction. Figure 2 illustrates the extent of hot spot removal within Lot Y.

Based on existing archaeological data for this area, the types of archaeological materials that might be present in the general vicinity could potentially include the remains of artifacts (e.g., flaked stone tools, tool-making debris, ground stone tools, fire-affected rock), soil discoloration or shell that might indicate the presence of a cultural midden, fire pits, soil depressions, and features indicative of the former presence of structures or buildings (e.g., postholes, foundations) or historic debris (e.g., horse paraphernalia, railroad ties, concrete blocks, metal, glass, ceramics). Chipped stone tools, if present, may be related to either the prehistoric or ethnohistoric periods. Historic-period cultural resources, if present, would most likely be related to settlement in the early 1800s during the HBC/PSAC era, the 9th U.S. Cavalry bivouac and war games of 1904, the early years of the DuPont Powder Works (Old Town period), including construction of the narrow-gauge railroad, and the early years of today’s city of DuPont.

Considering the gravelly nature of the Spanaway soils and the history of disturbance, it is expected that cultural material, if present, would be discovered above a depth of 25 to 30 cmbs (0.8-1 foot). As discussed above, sterile gravels have been encountered at shallow depths (25-30 cmbs) at archaeological sites in this vicinity, including 45PI66 and 45PI455 within the project area.

## OBJECTIVES

As presented in the Permit, the goals of this investigation are to determine if any intact subsurface archaeological deposits from the prehistoric, ethnohistoric, or historic periods remain within the project area, to document them, to add important information to the sites determined eligible (45PI66 Methodist Episcopal Mission site) or considered potentially eligible (45PI455 9th U.S. Cavalry Bivouac site) for NRHP listing, and to assess the potential eligibility for listing on the NRHP of any newly discovered sites. More specifically, based on our knowledge of the prehistory, ethnography, and history of the project vicinity and the results of the prior local archaeological investigations, the following research questions guided the investigation:

1. Is there evidence for the exact location of the 1840–1842 Methodist Episcopal Mission building? Although extensive investigations have taken place within site 45PI66 and chimney stones were recovered, the opinion that the precise location of the Mission was identified is considered equivocal (compare Moura 1991a:8; Daugherty and Condon 2001:48). This site has been determined eligible for NRHP listing under Criterion A, and such evidence (i.e., postholes) would contribute additional important information about the location of the Mission building.
2. Is there additional evidence preserved of the 9<sup>th</sup> U.S. Cavalry 1904 encampment? Investigation extending outward from the backhoe peels completed in 1989 (Moura 1991a, 1991b) and the soil remediation program in 2000 (Daugherty and Condon 2000, 2001) within site 45PI455 may uncover further evidence of this brief occupation by the Buffalo Soldiers, such as privy holes or trash pits. Such evidence would contribute important information to the potential eligibility of this site for NRHP listing.
3. Is there evidence of an intact continuous chipped stone scatter along the northern side of Sequalitchew Creek that indicates Native Americans repeatedly occupied the area prior to Euro-American settlement during the historic period, and does the evidence indicate a firm link between previously recorded resources? Such evidence may connect the four pieces of debitage recorded as isolate 45PI773 and recovered from a series of discontinuous subsurface probes (Wessen et al. 2008) to the seven chipped stone artifacts recovered during the 1989 test excavations at site 45PI455, the 9<sup>th</sup> U.S. Cavalry Bivouac site (Moura 1991a, 1991b).
4. Is there additional evidence for HBC-PSAC activities outside of and not related to previously recorded site 45PI66? If undisturbed deposits or features from this mid-1800s period exist, the newly discovered sites may be eligible for listing on the NRHP, depending on the nature of the discovery (e.g., post holes, privy holes, wells, trash pits, burials, etc.).
5. Is there additional evidence for Old Town period activities outside of and not related to previously recorded site 45PI63 (Railroad Dump)? If undisturbed deposits or features from this early 1900s period exist, the newly discovered sites may be eligible for listing on the NRHP, depending on the nature of the discovery (e.g., trash pits, privy holes, wells, burials, etc.).
6. Is there additional evidence for DuPont period activities outside of and not related to previously recorded site 45PI64 (Burning Ground Dump)? If undisturbed deposits or features dating to this period from the 1920s to 1945 exist, the newly discovered sites may be eligible for listing on the NRHP, depending on the nature of the discovery (e.g., burials, trash pits, wells, privy holes, etc.).

## FIELD METHODS AND PERSONNEL

All work by PCI for this investigation was conducted by professional archaeologists as defined under RCW 27.53.030(8) and who meet the Secretary of the Interior's Standards (National Park Service [NPS], 1983). PCI archaeologists Cindy Arrington, M.S., and Peter Morris completed the fieldwork, and Dr. Nancy Sikes served as the cultural resources Principal Investigator for the project. Kareem Gannie of the Nisqually Tribe served as the project Native American monitor for survey and subsurface testing.

Field methods approved for this project included intensive-level pedestrian survey followed by subsurface testing, and then monitoring of geotechnical subsurface exploration in the project area. These three phases of fieldwork were conducted by PCI archaeologists on the dates in February and March 2011 shown in Table 4. The methods employed for each field phase are presented separately below.

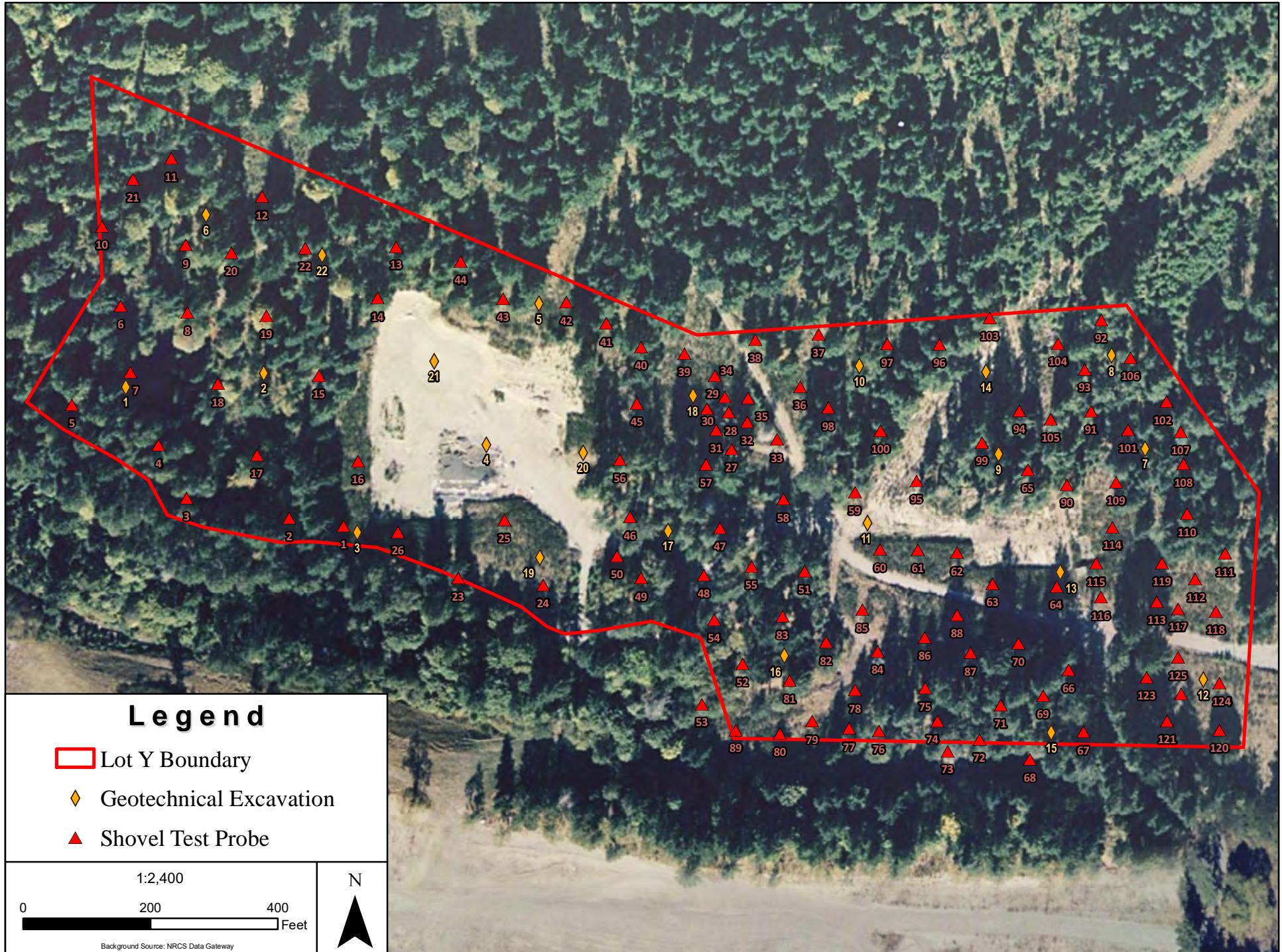
**Table 4. Project Field Phase Dates and Personnel**

Field Phase	Archaeologist (s)	Date of Fieldwork
Survey	Cindy Arrington and Peter Morris	February 17–18, 2011
Subsurface testing	Cindy Arrington	February 21-28 and March 1-2 2011
Monitoring of geotechnical subsurface exploration	Cindy Arrington	March 3-4, 2011

The pedestrian survey was conducted prior to any subsurface excavations to identify any previously unrecorded archaeological material from the prehistoric, ethnohistoric or historic periods that could potentially be present on the surface of the project area. The intensive-level pedestrian survey encompassed the entire 25.3-acre project area. Transect spacing within the project area was no greater than 15 meters apart and was accomplished on an east-to-west bearing. The 25.3-acres surveyed by PCI archaeologists comprise the maximum physical footprint of potential ground-disturbing activities associated with the proposed construction (Figure 1).

Following the pedestrian survey, a series of 125 shovel test probes (STPs) and 22 geotechnical excavations (GTEs) were excavated within the project area at random intervals as shown on Figure 3. At the request of the City of DuPont and DAHP, no STPs were placed in existing trails, pedestrian paths, or gravel roadways. Additionally, all STPs were backfilled and compacted daily. The STPs and GTEs were accomplished by mechanical excavation using a backhoe with a 2-foot bucket attachment and smooth plate. Dan Andreas of Miles Resources operated the mechanical equipment. PCI archaeologists remained at a safe distance from all mechanical equipment, while continuing to examine the sides of the trenches for cultural resources. All field personnel were aware of prior soil contamination within Lot Y (mainly lead and arsenic) and related remediation completed in 1999 and 2000, and observed standard safety protocols.

Each of the 125 STPs measured 3 feet in length and 2.5 feet in width. STP levels were dug in 7-cm (3-inch) increments or until sterile gravels were encountered. Soils taken from the STPs were screened through 1/8-inch hardware cloth. No STPs were placed in three hot spots (HS-3, HS-4 and HS-6, which include the former locations of 45PI63A, 45PI63B, and 45PI64) where the prior remediation efforts 11 years ago removed contaminated soils and where sterile gravel is now exposed throughout these portions of the project area, as clearly visible on the aerial photograph (compare Figures 2 and 3). Sterile gravel was encountered in 123 of 125 STPs between 35 and 130 cmbs (1.1-4.3 feet); mixed stratigraphy or fill was present in two STPs. Records for the individual STPs, detailing levels, soil texture, color, and comments, are located in Appendix C.



Quad Name: Nisqually PR 1981

T19N, R 1E, Section 26

DuPont Lot Y: Subsurface Testing Map

Each of the 22 GTEs measured 3 feet wide by 5 feet long. GTE upper levels were dug in 3-inch (7-centimeter) increments or until sterile gravels were encountered, while lower levels, after encountering sterile gravels, were dug in 1-foot increments. Four of the GTEs were excavated within the hot spot removal areas (Figures 2 and 3). Soils taken from the GTEs at 4 feet, 6 feet, and 10 feet were screened through 1/8-inch hardware cloth. Twenty GTEs were excavated to 305 cmbs (10 feet); one GTE with mixed stratigraphy was terminated at 250 cmbs (8.2 feet); one GTE filled with water at 244 cmbs (8 feet). Records for the individual GTEs, detailing levels, soil texture, color, and comments, are located in Appendix C.

All undeveloped ground surface areas within the current project limits were examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, fire pits, soil depressions, and features indicative of the former presence of structures or buildings (e.g., postholes, foundations), or historic debris (e.g., metal, glass, ceramics). Ground disturbances, including a graveled dirt road and dirt two-track, were visually inspected. Climatic conditions varied from sunshine during the first three days of fieldwork to inclement weather (rain, snow, sleet, or hail) during part or all of each succeeding day.

Photographs of the current project area, ground surface visibility, STPs, GTEs, and items of interest were taken with a digital camera. Soil color was recorded using a Munsell® Soil Color Chart. The surveyed acreage and location of the STPs and GTEs were recorded with a handheld Trimble® GeoXT global positioning system (GPS) unit. Field notes and photographs are on file at PCI.

Except for two brick fragments, one flat iron bar and one can, no portable artifacts were identified; no artifacts were collected. For all archaeological materials identified during the fieldwork, PCI archaeologists completed the appropriate Washington Archaeological Site Inventory and Isolate forms.

## FIELD RESULTS

### GENERAL DESCRIPTION AND SUMMARY

The northern, eastern and western sides of the project area are immediately bordered by dense conifer forest (Photograph 4). Elevation within Lot Y increases from 64 meters above mean sea level (msl) by approximately 1 to 3 meters from east to west, and from 61 to 68 meters above msl from south to north. Sequalitche Creek is located approximately 50 feet outside the entire Lot Y southern boundary at the bottom of a steep embankment. At the time of the pedestrian survey, the creek had a generous water flow.



**Photograph 4. Forest to north, east, and west of Lot Y (view to southwest)**

The project area contains four cleared hot spots (HS) where the contaminated topsoil was removed during remediation efforts in 1999 and 2000 (Figure 2). HS-6 is a large semi-square clearing that lacks vegetation, and is currently used as a gravel pit. As shown on the figure, a narrow linear extension of HS-6 extends eastward to meet the western extent of HS-3 south of the recorded boundaries of site 45PI66. Vegetation is re-establishing within the HS-2, HS-3, and HS-4 remediation clearings, and includes mostly small conifers, scotch broom and grasses.

A paved walking trail maintained by the City of DuPont and situated outside the southern border of Lot Y parallels the northern side of Sequalitchew Creek. As shown on Figure 2, a dirt road transects a portion of the project area, running east to west, starting at a chain-link fence on the eastern boundary and ending at the eastern edge of HS-6. The road is approximately 1,067 feet long and has a thin gravel coating. An approximately 460-foot long area devoid of vegetation, the previous location of a narrow-gauge railroad track, leads northeast from HS-3 to HS-4. All railroad tracks were removed from the project area between 1995 and 2000 (personal communication, Fred Foreman).

A non-functional segment of a narrow-gauge railroad track bisects the eastern edge of the project area. There is also a concrete loading platform in the eastern portion of the project area. The platform is located approximately where the former sets of narrow gauge and standard gauge railroad tracks crossed each other as shown on the March 15, 1955 map of the DuPont Works drawn by E. Davies. To the south and immediately outside of the current project area is a set of concrete bridge abutments near Sequalitchew Creek. These are the remnants of a narrow-gauge railroad bridge shown on the 1955 map. The track segment, concrete platform, and set of bridge abutments were recorded as archaeological sites (see below).

As detailed below, except for two brick fragments located on the surface and at depth within the boundaries of 45PI66 (Methodist Episcopal Mission site), no evidence was found during this investigation within Lot Y of the previously recorded sites and isolate covered by the excavation permit.

Vegetation within the project area perimeter consists of open, second growth conifer forest dominated by Douglas fir, sword fern, and scotch broom, and includes red alder, elderberry, and grasses. Visibility on the ground in the majority of the project area is very poor, near zero percent, due to a dense coverage of grass, moss, and forest duff (Photograph 5). In the open ground areas in HS-6 and HS-3, visibility is good to excellent, ranging between 30 and 100 percent (Photograph 6).



**Photograph 5. Visibility at 0% (view to northeast)**



**Photograph 6. Visibility at 30-100% (view to northeast)**

## SUBSURFACE TESTING RESULTS

The subsurface stratigraphy was consistent within 123 of the 125 STPs and all 22 GTEs excavated within the project area (Figure 3). The soil throughout the project area is consistent with the description for the Spanaway series developed on glacial outwash sediments (Soil Survey Staff 2009). There are three soil horizons, though horizon 2 is not present in all STPs or GTEs. The depth of the horizons varies across the Lot Y landscape in relation to the topography and prior human disturbance. Horizon 1 is a moist, very dark brown (10 YR 2/2) gravelly sandy loam with weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots with a very high organic matter content. Horizon 2 is a moist very fine crumb dark gray brown (10 YR 3/2) gravelly sandy loam with little distinction in texture from horizon 1. Horizon 3 is moist and fluctuates between a dark gray brown (2 YR 4/2) and an olive brown (2YR 4/4) gravelly sand with no soil matrix. The single grained, loose sand is the prominent content with some rounded to sub-rounded cobbles; it is also very compact.

Only two of the subsurface units (STPs 28 and 115) contained cultural material. A brick fragment, measuring 3x4x2 inches, was located at 20 cmbs (8 inches) in STP 28 within site 45PI66 (Methodist Episcopal Mission). The brick was not handmade and no maker's marks were located on the fragment. Additionally, a smaller brick fragment was located at ground level within inches of STP 35 (also within 45PI66). STP 115 is located 18.5 feet due east of a concrete platform and the soil is entirely mixed down to a level of 200 cmbs (6.6 feet). A flat iron bar with four bolts protruding was located at 160 cmbs (5.2 feet). The iron bar measured 24 inches long by 3 inches wide and 1/8<sup>th</sup> inch thick, and has four 3.5-inch metal bolts spaced roughly 7 to 8 inches apart (Photograph 7). The iron bar appears to be associated with the concrete platform, given its close proximity and the paint on the bolt heads matches the metal on the platform.



**Photograph 7. Flat iron bar in STP 115 (plan view)**

All but two of the 125 STPs (STP 89 and 115) were excavated until sterile gravel was encountered. Although the presence of the Spanaway series soil horizons was consistent, the depth of sterile gravel varied from 35 cmbs to 130 cmbs (1.1-4.3 feet) across the project area. STP 115 had mixed stratigraphy and was excavated to a depth of 200 cmbs (6.6 feet). The soil in STP 89 is a moist, brown (7.5 YR 4/4) silty loam until the typical underlying horizon appears at 110 cmbs (3.6 feet) as a moist, dark green brown (2.5 YR 4/4) gravelly sand. The typical upper horizon of gravelly sandy loam appears to have been removed near STP 89 and replaced with imported soil. The STP was placed 66 feet northeast of the set of bridge abutments. It seems likely that more stable soil was imported for the approach to the narrow-gauge bridge that once crossed Sequalitchew Creek.

Six of the STPs located in the eastern portion of the project (STPs 113, 116-119) near the gravel road each display a gray upper horizon not noted in any other portion of the project area (Photograph 8). The moist, dark gray (2.5 YR 3/1) soil is similar in structure to the typical horizon 1, but is noticeably different in color and is relatively thin (0-25 cm [0-9.8 inches]), and is likely related to prior disturbance.

STPs 120 through 125, located in the southeastern portion of the project area, all show evidence of a grass fire. Small flecks of charcoal are noted in the upper 5 cm of each unit. Of these six STPs, only STP 120—with a total depth of 95 cmbs (3.1 feet) and nearest the creek—contained horizon 2. The profiles in STPs 121 through 125 are restricted to horizon 1 (0-60 cmbs [0-23.6 inches]) and horizon 3 (60-80 cmbs [23.6-31.5 inches]).

With the exception of the brick fragment in STP 28 and the iron bar in STP 115, no cultural material was located in the series of 125 STPs excavated within the project area.



**Photograph 8. Upper gray horizon in eastern STPs near gravel road (view to west)**

#### **GEOTECHNICAL SUBSURFACE EXPLORATION RESULTS**

Of the 22 GTEs placed in the project area (Figure 3), all but two (GTEs 9 and 14) were taken to a depth of 305 cmbs (10 feet). The soils throughout the GTEs are relatively consistent with the Spanaway series (Photograph 9), although only five (GTEs 1, 3, 5, 12, 13, and 15) contain horizon 2.

In the eastern sector of the project area, GTE 9 has mixed stratigraphy and was excavated to a depth of 250 cmbs (8.2 feet). The upper horizon is a thin layer of sand (0-20 cmbs [0-8 inches]) followed by a mix of horizon 1 very dark brown (10 YR 2/2) gravelly sandy loam and sand with very few cobbles. It appears to be imported fill material. This unit is in close proximity to two of the hot spots (HS-3 and HS-4) cleared for soil contamination (compare Figures 2 and 3). In the northeastern sector, GTE 14 was terminated at 244 cmbs (8 feet) when water entered the unit and began to fill rapidly.

No cultural material was located in any of the 22 GTEs excavated within Lot Y.



**Photograph 9. Sediments within GTE 16 (plan view)**

#### **PREVIOUSLY RECORDED RESOURCES WITHIN PROJECT AREA**

The only evidence found during this investigation within Lot Y of the two previously recorded historic archaeological sites (45PI66 and 45PI455) and one prehistoric isolate (45PI773) was the two brick fragments located within the boundaries of 45PI66, the Methodist Episcopal Mission site. In addition, there was no evidence of the two archaeological sites (45PI63 and 45PI64) formerly located within Lot Y that were completely removed during hazardous materials remediation in 2000.

#### **45PI66 Methodist Episcopal Mission Site**

During this field investigation, eight STPs (STPs 28-35) were placed within the previously identified boundary of 45PI66. Two fragmented red brick pieces were located: one fragmented piece in STP 28 at 20 cmbs (8 inches) (Photograph 10) and one at ground level within inches of STP 35. The larger of the two brick fragments (3x4x2 inches in STP 28) was not handmade and had no maker's marks. No other cultural artifacts were identified within the site boundary.



**Photograph 10. Brick fragment in STP 28 (plan view)**

The soil within the STPs placed within the site boundaries is a shallow (0-25 cm [0-9.8 inch]) moist, very dark brown (10 YR 2/2) gravelly sandy loam with a weak fine granular structure; soft, very friable, nonsticky and nonplastic; with many fine roots and a very high organic matter content. Below the single soil horizon is a moist, dark gray brown (2.5 YR R 4/2) gravelly sand with no soil matrix. Within the single-grained, loose sand are some medium to large rounded to sub-rounded cobbles. This profile description is consistent with that described during the archaeological excavations conducted in 1989 within 45PI66 (Welch 1989a; Moura 1991a). Those excavations were stopped when sterile gravels were encountered at 25 cmbs (0.8 feet).

No evidence was discovered during this investigation of the exact location of the 1840–1842 Methodist Episcopal Mission building or of any undisturbed archaeological deposits or features related to the mission, the HBC/PSAC era, or any other archaeological period. The work further substantiates the opinion that site 45PI66 is not eligible under Criterion D (data potential). The Methodist Episcopal Mission site has, however, been determined eligible for NRHP listing under Criterion A for its association with significant events.

### **45PI455 9th U.S. Cavalry Bivouac Site**

There was no surface evidence of site 45PI455 during this investigation and no cultural material or deposits within a series of 12 STPs (STPs 72-82 and 84) placed within or adjacent to the recorded site boundaries. The soil horizons within the STPs are consistent with the Spanaway series, with the lower gravelly sand horizon encountered between 35 and 70 cmbs (1.1-2.3 feet). During test excavations in 1989 when nearly 1,000 artifacts and animal bone fragments were collected, sterile gravels were encountered within 30 cmbs (1 foot) (Moura 1991a:9, 1991b:1).

No additional evidence of the 9<sup>th</sup> U.S. Cavalry 1904 encampment or of any undisturbed archaeological deposits or features was discovered during this investigation. Since 1998 when State Archaeologist Robert Whitlam indicated this site is potentially eligible for NRHP listing and recommended further work to define the boundaries of the Native American and Buffalo Soldier occupations, no further evidence of site 45PI455 was uncovered during the remediation program a decade ago (Daugherty and Condon 2000, 2001) or during the current endeavor. Site 45PI455 is thus not considered eligible for NRHP listing under Criterion D (data potential). The 9<sup>th</sup> U.S. Cavalry Bivouac site is, however, considered potentially eligible for NRHP inclusion as part of the proposed Nisqually-Sequalitchew Historic District.

### **45PI773 Prehistoric Chipped Stone Isolate**

No cultural material was identified on the surface of 45PI773 or within three STPs (STPs 72, 77, 80) placed during this field investigation within or adjacent to the locations of the shovel test probes excavated in 2005 (Wessen et al. 2005, 2008). The soil horizons within the three STPs are consistent with the Spanaway series, with the lower gravelly sand horizon encountered between 22 and 70 cmbs (0.7-2.3 feet). The soil profile in the vicinity of where the four pieces of debitage were encountered in the series of discontinuous subsurface probes was described by Wessen et al. as having three strata (2008:30) with the lower gravelly sand horizon with cobbles at 50 cmbs (1.6 feet).

No evidence was discovered during this investigation of any undisturbed archaeological deposits or features, including no sign of an intact continuous chipped stone scatter along the northern side of Sequalitchew Creek that might have linked the four pieces of debitage recorded as isolate 45PI773 to the seven chipped stone artifacts recovered during the 1989 test excavations at nearby 45PI455 (9<sup>th</sup> U.S. Cavalry Bivouac site). PCI agrees with the prior recommendation that isolate 45PI773 is ineligible for NRHP listing.

## NEWLY IDENTIFIED RESOURCES WITHIN PROJECT AREA

Four historic period resources were newly identified during the pedestrian survey: three archaeological sites and one isolate (Figure 2). The three sites include a segment of a previously identified narrow-gauge railroad track and grade (45PI01224), a railroad concrete loading platform (45PI01225), and a set of railroad bridge abutments (45PI01226). The isolate (45PI00064) is one galvanized kerosene can. A brief description of the newly identified historic period resources is presented below. Detailed information can be found in the State of Washington Archaeological Site Inventory and Isolate Forms, attached as Appendix D.

No prehistoric or ethnohistoric period resources were newly identified during pedestrian survey of the surface or within the subsurface excavations.

### **45PI01224 Narrow Gauge Railroad Track**

This site was originally recorded by Arrington during survey in 2010 of the 12.8-acre property (known as Lot X) adjacent to the eastern edge of Lot Y (Sikes and Arrington 2010). It is a non-functional segment of a narrow-gauge railroad track situated on an earthen berm; it extends into both Lots X and Y beneath a chain-link fence marking the property boundaries. The track and berm bisect the eastern edge of the Lot Y project area (Figure 2; Photograph 11). The earthen berm is approximately 20 inches high and 20 feet wide. The narrow gauge track extends 207 feet west from the eastern project area boundary. The site is covered with forest duff, lichen, and scotch broom. The narrow-gauge track and berm continue east into Lot X beneath the chain-link fence for approximately 98 feet.

The short abandoned track and berm segment are attributed to construction by the DuPont Powder Works; the narrow-gauge railroad was used to transport their products during the Old Town period (1906-1920s). This site is recommended ineligible for listing on the NRHP or WHR. The segment is in poor condition with no evidence of associated artifacts or cultural deposits and has no potential to yield additional information. The eastern end of the spur was truncated presumably after DuPont Powder Works closed in 1976.



**Photograph 11. 45PI01224 segment of narrow-gauge track (view to east)**

### **45PI01225 Concrete Loading Platform**

A concrete loading platform is located approximately where the standard-gauge and one of the narrow-gauge tracks previously crossed near the eastern edge of Lot Y. The platform is visible on satellite imagery, but was previously unrecorded. During the functional period of the platform, it likely was used

for loading or unloading materials onto DuPont Powder Works trains that would have moved east to west and north to south past the platform.

The platform is primarily concrete, with a steel railing as a perimeter of the upper platform surface. The platform is 192 inches square and 77 inches tall. The surface perimeter has a 3-inch concrete lip with occasional breaks to permit loading access. There is an arrangement of 2-inch by 6-inch wood boards bolted to the interior surface of the concrete lip, with a steel railing situated along the perimeter lip of the platform (Photograph 12). The railing is painted yellow and is 39.5 inches tall, with a lower bar and upper bar. The lower bar is 19.5 inches high, and the upper bar is 39 inches high. There are openings in the rail with steel chains stretched across on the south and east sides of the platform; one opening is 55 inches wide, and the other is 51 inches wide.

On the north side of the platform there is a 30-inch wide opening that appears to be a person-access stepping platform, with vertical handrails and a swinging safety bar (non-operational). On the east of the platform is a small debris pile consisting of heavy-gauge sheet metal, milled lumber, crushed pipe (1.5-inch diameter), and steel railing segment with chain. The platform is built with well sorted aggregate, form poured concrete. It does not appear on the very detailed 1955 map drawn by E. Davies. Locals recall the platform was not built until the early 1960s and then it was seldom used (personal communication, Fred Foreman). This site has no potential to yield additional information and is recommended ineligible for listing on the NRHP or WHR.



**Photograph 12. Concrete loading platform (view to east)**

#### **45PI01226 Railroad Bridge Abutments**

This site is comprised of the remnants of a narrow-gauge railroad bridge that traversed Sequalitchew Creek from north to south. This bridge crossing is shown on the 1955 map drawn by E. Davies. The remains include two concrete abutments that have a 165-inch horizontal separation (Photograph 13). Both abutments have a poured-form aggregate concrete construction, with a smooth finished top. The lower abutment is 150 inches long, 32 inches high from the ground, and 12 inches wide at the top. The upper abutment is 128 inches long, 51 inches high from the ground, with the base at 20 inches wide, and the top of the abutment 12.5 inches wide. The abutments are covered with moss and are surrounded by decomposing forest duff and vegetation, including ferns, conifers, deciduous trees, and grasses.

The set of abutments is immediately outside of the Lot Y project area, and 35 feet north of Sequalitchew Creek (Figure 2). There are two pieces of milled lumber located between the abutments; they are each 6 by 6 inches, but vary in length. One piece is 45 inches long, and the other is 60 inches long. The longer

piece is intact, and has a 5-inch by 8.5-inch metal cleat with spikes on one side (Photograph 14). An identical set of concrete abutments is visible on the south side of the creek outside the project area.

This bridge was the only narrow-gauge railroad bridge within the DuPont Powder Works to cross Sequalitchew Creek, and is shown on the 1955 map drawn by E. Davies. It was used for transport of material by train from the plant to the burning ground (later recorded as 45PI64) and then proceeding further north to the storage area (personal communication, Fred Foreman and Johanna Jones). The bridge was removed in the late 1990s. The remaining set of abutments has no potential to yield additional information and is recommended ineligible for listing on the NRHP or WHR.



**Photograph 13. Bridge abutment (view to north)**



**Photograph 14. Wood debris showing cleat (plan view)**

#### **45PI00064 Parus Isolate #1 Kerosene Can**

A galvanized kerosene can was located near the edge of the northwest corner of the area known locally as the “gravel pit” (HS-6 on Figure 2) and formerly the burning ground (45PI64). The sides of the can are dented and it exhibits some oxidation. It is missing the pour spout and wire handle, but is mostly intact (Photograph 15). The top is domed and ribbed, and the base diameter is 11 inches, with a height of 14 inches. The dimensions suggest the volume of this can was approximately 5 gallons. Considering the lengthy range of manufacture, the age of the can is undeterminable.



**Photograph 15. Kerosene can (plan view)**

## **PROJECT CONCLUSIONS, FINDINGS AND RECOMMENDATIONS**

No evidence was found during this investigation within Lot Y of 45PI66 (Methodist Episcopal Mission site), 45PI455 (9th U.S. Cavalry Bivouac site) or 45PI773 (chipped stone isolate), except for two brick fragments located on the surface and at depth within the boundaries of 45PI66. Nor was there any surface or subsurface evidence of the two archaeological sites (45PI63 and 45PI64) formerly located within Lot Y that were completely removed a decade ago during hazardous materials remediation.

No historic properties will be affected by implementation of the Lot Y project. Although the Methodist Episcopal Mission site has been determined eligible for NRHP listing under Criterion A for its association with significant events and also contributes to the proposed Nisqually-Sequalitchew Historic District, site 45PI66 is not eligible under Criterion D (data potential). Similarly, although the location of the brief occupation by the 9<sup>th</sup> U.S. Cavalry Buffalo Soldiers is potentially eligible for NRHP inclusion as a contributing element of the proposed Nisqually-Sequalitchew Historic District under Criterion A, site 45PI455 is not considered eligible for NRHP listing under Criterion D. Isolate 45PI773 is considered ineligible for NRHP listing.

The two newly identified sites within Lot Y, 45PI1224 (railroad track segment) and 45PI01225 (concrete platform), and are recommended ineligible for listing on the NRHP or WHR. The kerosene can isolate (45PI00064) is considered ineligible for listing. The third newly identified site, 45PI01226 (bridge abutments; also recommended ineligible for listing on the NRHP or WHR), is located immediately outside the Lot Y project area.

Considering the results of the literature search, local ethnographic settlement and subsistence patterns, the prehistory and history of the vicinity, and DAHP's predictive model, the project area is considered highly sensitive for prehistoric, ethnohistoric, and historic-era cultural resources. On the other hand, Lot Y has been extensively disturbed beginning with historic period settlement in the early 1880s, then operation of the DuPont Powder Works in the early to mid-1900s (including use of part of Lot Y as a burning ground dump from the 1930s until 1945), followed by subsurface archaeological investigations and related artifact collection between 1989 and 2005 and by environmental remediation activities in 1999 and 2000. Based on the lack of cultural deposits in the gravelly sandy loam and gravelly sand subsurface sediments exposed in the series of 125 STPs and 22 GTEs excavated to depths between 35 and 305 cmbs (1.1-10

feet), the potential for discovery of buried archaeological materials, features or deposits by implementation of this project is considered low. Therefore, no further cultural resource action is warranted.

There is always the potential for the existence of buried archaeological materials within the project area, mostly likely restricted to shallow depths above the outwash gravels, and an Unanticipated Cultural Resources Discovery Plan has been prepared for the project and is attached to this report as Appendix E. Pursuant to the Discovery Plan, should cultural resources be encountered during construction or ground-disturbing activities connected with this project, work in the area must be halted and a professional archaeologist, who meets the definition under RCW 27.53.030(8), should be notified immediately to evaluate the resource(s) encountered. Should human skeletal remains be encountered, all activity in the area must halt, the remains protected from further disturbance, and the county coroner and local law enforcement notified immediately (RCW 27.44, 68.50, 68.60).

Resources within this area that might be encountered might include prehistoric and ethnohistoric materials such as flaked stone tools, tool-making debris, stone milling tools, fire-affected rock, basketry, culturally modified animal bone, fishing implements or soil darkened by cultural activities (midden). Historic materials might include remnants of railroad or roadway construction activities or other industry or commerce (e.g., railroad ties, concrete blocks, machinery parts), building remains, metal, glass, cans, ceramic artifacts, or other debris older than 50 years.

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**APPENDIX A:**  
**Archaeological Excavation Permit No. 2010-54**



STATE OF WASHINGTON  
DEPARTMENT OF ARCHAEOLOGY AND HISTORIC PRESERVATION

1063 S. Capitol Way, Suite 106 • Olympia, Washington 98501

Mailing address: PO Box 48343 • Olympia, Washington 98504-8343

(360) 586-3065 • Fax Number (360) 586-3067 • Website: [www.dahp.wa.gov](http://www.dahp.wa.gov)

February 7, 2011

Ms. Lia Estigoy  
DuPont Industrial Partners, LLC  
1201 Pacific Avenue, Suite 1501  
Tacoma, WA 98402

Nancy E. Sikes and Cindy Arrington  
GeoEngineers, Inc.  
1101 S. Fawcett Avenue, Suite 200  
Tacoma, WA 98402

Dear Ms. Estigoy, Ms. Sikes and Ms. Arrington:

I have reviewed the application you submitted for archaeological excavations at 45PI00066. It is my intention to grant the permit application for excavations at 45PI00066. Please take note of the Special Conditions on the permit.

If you feel aggrieved by this decision you may request an administrative hearing within twenty-one days after receipt of this notice. Your request should be sent to the address listed below.

Director  
Department of Archaeology and Historic Preservation  
PO Box 48343  
Olympia, WA 98504-8343

Sincerely,

A handwritten signature in blue ink that reads "Stephenie Kramer".

Stephenie Kramer  
Assistant State Archaeologist  
(360) 586-3083  
Email: [stephenie.kramer@dahp.wa.gov](mailto:stephenie.kramer@dahp.wa.gov)

Enclosure



DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION

*Protect the Past, Shape the Future*



STATE OF WASHINGTON

**DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION**

1063 S. Capitol Way, Suite 106 • Olympia, Washington 98501  
Mailing address: PO Box 48343 • Olympia, Washington 98504-8343

**ARCHAEOLOGICAL EXCAVATION PERMIT**  
**NO: 2010-54**

Archaeological sites: 45PI66, 45PI455 and 45PI773, Lot Y

Individual Responsible for carrying out Lia Estigoy  
the terms and conditions of the permit: Property Owner

Individual responsible for field investigations: Nancy Sikes & Cindy Arrington  
GeoEngineers, Inc.

Nature of work: Sub-surface survey and geotechnical pits, archaeological testing

Repository in which collected records and Nisqually Tribe & DuPont Historical Museum;  
data shall be deposited: cc DAHP on transfer

Date fieldwork to begin: Upon receipt; but notify DAHP and Tribes via email  
before starting

Date fieldwork shall end: April 31, 2011

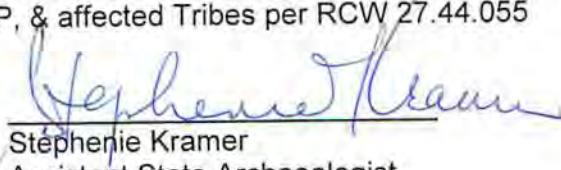
Period of analysis: Concurrent through May 31, 2011

Date final report due: May 31, 2011  
Per WAC 25-48-041, if the report is late, a Notice of  
Violation will be issued & a \$5000 penalty assessed

**Special Conditions:**

- Follow protocols stated in permit application of 12/2/10 and email of 2/7/11
- Notify DAHP and Tribes if intact archaeological deposits are observed
- Switch to hand excavation for intact deposits
- Restore trails if units are needed in trail areas
- Be aware of City of DuPont's comments regarding arsenic
- Provide copy of report to DAHP & affected Tribes
- Report must meet DAHP's Survey and Inventory Standards
- Append catalog & BetaAnalytic sheets to report, reference permit number
- If human remains are encountered, stop work, secure the area, notify the county coroner, sheriff, DAHP, & affected Tribes per RCW 27.44.055

Issued this 7th day of February 2011.

  
Stephenie Kramer  
Assistant State Archaeologist

**APPENDIX B:**  
**Correspondence with Local Tribes**

**Native American Tracking Sheet**  
**DuPont Industrial Partners, LLC**  
**DuPont, WA – Lot Y**

**GeoEngineers Project No. 16785-003-00**

Contact Name	Date Letter Sent Via Email	Comments/Concerns Recommendation
Puyallup Tribe 3009 East Portland Avenue Tacoma, Washington 98404 Judy Wright, THPO Cultural Resources 253-573-7897  <a href="mailto:Judy.Wright@puyalluptribe.com">Judy.Wright@puyalluptribe.com</a>	<b>11-8-2010</b>	No response
Nisqually Tribe 4820 She-Nah-num Drive SE Olympia, Washington 98513 360-456-5221 phone Thor Hoyte, Cultural Resources  <a href="mailto:Hoyte.thor@nisqually-nsn.gov">Hoyte.thor@nisqually-nsn.gov</a>	<b>11-8-2010</b>  <b>11-16-10</b>  <b>12-2-10</b>	11-8-2010: Received a phone call from Joe Kalama in reply to the information letter sent out. The Tribe wishes to monitor subsurface disturbance. We spoke briefly regarding the proposed field schedule (February of 2011) and agreed that I will contact the Tribe in late January to review field schedule and set up a Native American monitor.  I received an email from Mr. Hoyte informing me that he was no longer representing the Nisqually Tribe and that all inquires should be directed to Joe Kalama of the Tribe. I spoke with and emailed Mr. Kalama on 11-19-10 to let him know the scope and nature of the project and that our client was requesting a curation letter from the tribe for any prehistoric and/or ethnohistoric artifacts that may be identified during the field testing (a copy of this email is attached). Mr. Kalama assured me that the Tribe would accept the artifacts and that a letter stating such is currently being drafted.  We have not heard from nor received the curation letter from Mr. Kalama. I have sent a second email requesting the curation letter.
Squaxin Tribe SE 70 Squaxin Lane Shelton, Washington 98584 Rhonda Foster, THPO Cultural Resources 360-432-3850  <a href="mailto:rfoster@squaxin.nsn.us">rfoster@squaxin.nsn.us</a>	<b>11-8-2010</b>	No response



1101 S Fawcett, Suite 200  
Tacoma, Washington 98402  
253.383.4940

November 8, 2010

Puyallup Tribe  
3009 East Portland Avenue  
Tacoma, Washington 98404

Attention: Judy Wright, THPO Cultural Resources

Sent via email: [Judy.Wright@puyalluptribe.com](mailto:Judy.Wright@puyalluptribe.com)

Subject: Cultural Resources Assessment for the DuPont Industrial Partners, LLC, Lot Y DuPont  
Washington

Dear Ms. Wright:

I am writing to inform you of a cultural resources assessment that is planned for the above-referenced project. GeoEngineers is conducting this assessment at the request of the DuPont Industrial Partners, LLC. The project is located northwest of the town of DuPont near the intersection of Center Drive and Powerline Road in the City of DuPont, Washington (Township 19N, Range 01E, Section 26 on the Nisqually 7.5 quadrangle, Willamette Meridian). The project will consist of an intensive pedestrian survey and subsurface testing in the form of auger units for a total of approximately 26-acres (Figure 1).

Archaeologists have previously recorded and investigated four sites on Lot Y: 45PI63, the Railroad Dump #3 Site; 45PI66, the Methodist Episcopal Mission Site; 45PI455, the 9th Cavalry Bivouac Site; and 45PI773, a small lithic scatter. Additionally, Site 45PI64 The Burning Ground Dump Site, had been recorded in 1977 and additional work done in 2000. The entire site (approximately 3,000 square feet) was removed during a hot spot or contaminated soils treatment program for hazardous substances in 2001. In 1993, the SHPO determined the site ineligible for NRHP listing.

An Application for an Archaeological Excavation Permit is being completed pursuant to permit requirements found in the Washington Administrative Code [WAC] 25-48-060. There is no federal involvement in this project. The work for the proposed project will be conducted under prevailing Washington state laws, which serve to protect from known disturbance of archaeological sites and Native American graves on both public and private lands. These laws include Executive Order 05-05, Indian Graves and Records (Revised Code of Washington [RCW] 27.44), Archaeological Sites and Resources (RCW 27.53), Archaeological Excavation and Removal Permit (WAC 25-48), and Discovery of Human Remains (RCW 27.44).

GeoEngineers is in the process of reviewing available background information. Background research will include a site files search at the Washington State Department of Archaeology and Historic Preservation, review of previously recorded cultural resource sites, reports, and review pertinent published literature and ethnographies. Results of our investigation will be presented in a technical report.



We are aware that all information regarding cultural resources is within published sources. Should the Tribe have additional information concerning cultural resources, we would like to include it in our study. Please contact me should you wish to provide any comments or additional information. I appreciate your assistance in this matter and look forward to hearing from you. If I can answer any questions you may have, please do not hesitate to contact me at [Carrington@geoengineers.com](mailto:Carrington@geoengineers.com) or at 916-765-9381.

Best Regards,



Cindy Arrington

Cultural Resource Specialist

Attachment:

Figure 1





1101 S Fawcett, Suite 200  
Tacoma, Washington 98402  
253.383.4940

November 8, 2010

Nisqually Tribe  
4820 She-Nah-num Drive SE  
Olympia, Washington 98513

Attention: Thor Hoyte, Cultural Resources

Sent via email: [Hoyte.thor@nisqually-nsn.gov](mailto:Hoyte.thor@nisqually-nsn.gov)

Subject: Cultural Resources Assessment for the DuPont Industrial Partners, LLC, Lot Y DuPont  
Washington

Dear Mr. Hoyte:

I am writing to inform you of a cultural resources assessment that is planned for the above-referenced project. GeoEngineers is conducting this assessment at the request of the DuPont Industrial Partners, LLC. The project is located northwest of the town of DuPont near the intersection of Center Drive and Powerline Road in the City of DuPont, Washington (Township 19N, Range 01E, Section 26 on the Nisqually 7.5 quadrangle, Willamette Meridian). The project will consist of an intensive pedestrian survey and subsurface testing in the form of auger units for a total of approximately 26-acres (Figure 1).

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Best Regards,



Cindy Arrington

Cultural Resource Specialist

Attachment:

Figure 1





1101 S Fawcett, Suite 200  
Tacoma, Washington 98402  
253.383.4940

November 8, 2010

Squaxin Tribe  
SE 70 Squaxin Lane  
Shelton, Washington 98584

Attention: Rhonda Foster, THPO Cultural Resources

Sent via email: [rfoster@squaxin.nsn.us](mailto:rfoster@squaxin.nsn.us)

Subject: Cultural Resources Assessment for the DuPont Industrial Partners, LLC, Lot Y DuPont  
Washington

Dear Ms. Foster:

I am writing to inform you of a cultural resources assessment that is planned for the above-referenced project. GeoEngineers is conducting this assessment at the request of the DuPont Industrial Partners, LLC. The project is located northwest of the town of DuPont near the intersection of Center Drive and Powerline Road in the City of DuPont, Washington (Township 19N, Range 01E, Section 26 on the Nisqually 7.5 quadrangle, Willamette Meridian). The project will consist of an intensive pedestrian survey and subsurface testing in the form of auger units for a total of approximately 26-acres (Figure 1).

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Best Regards,



Cindy Arrington

Cultural Resource Specialist

Attachment:

Figure 1





Lot Y

T19N, R 1E, Section 26

USGS 7.5' Topographic Map Series, Nisqually (1981) Quad.

1:24,000

2,000

2,000

1

Path: W:\

Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
3. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission.

Data Sources: ESRI Data & Maps, Street Maps 2005  
Transverse Mercator, Zone 10 N North, North American Datum  
North arrow oriented to grid north

## Location of Lot Y

DuPont Industrial Partners, LLC  
Dupont, Washington

**GEOENGINEERS** 

**Figure 1**

**From:** Cindy J. Arrington  
**To:** [kalama.joe@nisqually-nsn.gov](mailto:kalama.joe@nisqually-nsn.gov)  
**Subject:** RE: Requested information  
**Date:** Friday, November 19, 2010 7:55:00 AM

---

Good Morning Joe:

I have an upcoming project in DuPont and which requires a Washington Archaeological Excavation permit. It is my clients intention to donate to the Nisqually Tribe ("Tribe") and/or DuPont Historical Museum ("Museum") any archaeological materials collected during the subsurface archaeological excavations planned on their private land ("Lot Y") in the City of DuPont, Pierce County, Washington. The project comprises approximately 26 acres, the property is located west of Center Drive and north of Sequalitchew Creek. It is situated in Section 26 of Township 19 North Range 1 East, on the 1981 Nisqually 7.5-minute USGS topographic map (Willamette Meridian).

Permission for excavation and related removal of archaeological material from Lot Y is being requested in an Archaeological Excavation Permit filed with the Department of Archaeology and Historic Preservation (DAHP) pursuant to permit requirements found in the Washington Administrative Code 25-48-060. As part of that permit, I need to secure curation letters from those individuals we seek to donate the artifacts to, should any artifacts be located/identified. Please note that subsurface testing will not begin until February 2011.

It is our intention that archaeological materials associated with the prehistoric or ethnohistoric periods will be donated to the Tribe for curation, and that historic period archaeological materials will be donated to the Museum for curation. A catalog and copies of records, data, photographs, and other documents derived from the excavation process will accompany any collection donated to either the Tribe or Museum.

If you could please contact me at your earliest convenience so that we may discuss the project.

Cindy J. Arrington, M.S., RPA  
Associate  
Cultural Resource Specialist

**GeoEngineers**  
t: 916.444.5825  
f: 916.441.2532  
c: 916.765.9381  
e: [carrington@geoengineers.com](mailto:carrington@geoengineers.com)

3301 C Street, Suite 200 A  
Sacramento, California 95816  
[www.geoengineers.com](http://www.geoengineers.com)

---

**From:** Thor Hoyte [mailto:[hoyte.thor@nisqually-nsn.gov](mailto:hoyte.thor@nisqually-nsn.gov)]  
**Sent:** Wednesday, November 17, 2010 1:59 PM  
**To:** Cindy J. Arrington  
**Cc:** [kalama.joe@nisqually-nsn.gov](mailto:kalama.joe@nisqually-nsn.gov)  
**Subject:** Re: Requested information

Sorry. Please contact Joe Kalama, who is on this email.

On Nov 16, 2010, at 12:24 PM, "Cindy J. Arrington" <[carrington@geoengineers.com](mailto:carrington@geoengineers.com)>

wrote:

Good Afternoon Mr. Hoyte: On November 5, I sent an email requesting your assistance with a project in DuPont, WA. I have not received a reply and have been unable to reach you by phone. If you could contact me at your earliest convenience.

Best regards,

Cindy J. Arrington, M.S., RPA  
Associate  
Cultural Resource Specialist

**GeoEngineers**

t: 916.444.5825  
f: 916.441.2532  
c: 916.765.9381  
e: [carrington@geoengineers.com](mailto:carrington@geoengineers.com)

3301 C Street, Suite 200 A  
Sacramento, California 95816  
[www.geoengineers.com](http://www.geoengineers.com)

---

Confidentiality: This message is confidential and intended solely for use of the individual or entity to whom it is addressed. If you are not the person for whom this message is intended, please delete it and notify me immediately, and please do not copy or send this message to anyone else.

**APPENDIX C:**  
**Detailed Subsurface Excavation Records**

## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

<b>Unit #</b>	<b>Date</b>	<b>Level cmbs</b>	<b>Cultural Materials</b>	<b>Soil Type</b>	<b>Munsell</b>	<b>Comments</b>
<b>STP 1-5</b>	2/21/2011	0-17	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		18-60	None	Moist/VFC/SL/DGB	10 YR 3/2	Little distinction between this layer and the previous one, except for color.
		60-78	None	Moist/VFC/SL/DYB	10 YR 3/4	Small charcoal flecks, not in situ. Rounded to sub-rounded cobbles, increasing in density. Cobbles 60% of matrix
		78-85	None	Moist/VFC/SL/DYB	10 YR 4/4	Gravelly sand with no soil matrix. Rounded to sub-rounded cobbles, very compact. Some large cobbles measuring over 18cm in width.
<b>STP 6-9</b>	2/21/2011	0-20	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		20-49	None	Moist/VFC/SL/DGB	10 YR 3/2	Little distinction between this layer and the previous one, except for color. Medium to large cobbles start in this layer and become increasingly more compact.
		49-77		Moist/VFC/SL/DYB	10 YR 3/4	Small charcoal flecks, not in situ. Rounded to sub-rounded cobbles, increasing in density. Cobbles 60% of matrix
		77-90	None	Moist/GS/DYB	10 YR 4/4	Gravelly sand with no soil matrix. Rounded to sub-rounded cobbles, very compact.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown

SPI = Small pebble inclusion, YB = Yellow brown, SC = Silty clay, GS = Gravelly Sand, DYB = Dark yellow brown

## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

<b>Unit #</b>	<b>Date</b>	<b>Level cmb</b>	<b>Cultural Materials</b>	<b>Soil Type</b>	<b>Munsell</b>	<b>Comments</b>
<b>STP 10 - 12</b>	2/21/2011	0-18	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		20-90	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, except for color. Medium to large cobbles start in this layer and become increasingly more compact.
		90-110	None	Moist/GS/DGB	2.5Y 4/2	Rounded to sub-rounded cobbles, very compact and increased density.
<b>STP 13 - 16</b>	2/21/2011	0-40	None	Moist/SL/VDB	10 YR 2/3	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		40-60	None	Moist/SL/DGB	10 YR 3/2	Very high in organic matter content, has mellow, sooty feel; gravelly sandy loam with larger cobbles appearing around 45-49cmb than decreasing by 60cmb.
		60-85	None	Moist/GS/OB	2.5 Y 5/3	Gravelly sand with no soil matrix. More sand; single grained; loose, than cobbles. Cobbles are rounded to sub-rounded and low density.
<b>STP 17 - 19</b>	2/22/2011	0-70	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		70-90	None	Moist/GS/DYB	10 YR 4/6	Gravelly sand with no soil matrix. Rounded to sub-rounded cobbles, very compact.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown

SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

<b>Unit #</b>	<b>Date</b>	<b>Level cmbs</b>	<b>Cultural Materials</b>	<b>Soil Type</b>	<b>Munsell</b>	<b>Comments</b>
<b>STP 20-22</b>	2/22/2011	0-45	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		45-80	None	Moist/GS/DYB	10 YR 4/6	Gravelly sand with no soil matrix. Rounded to sub-rounded cobbles, very compact.
<b>STP 23-27</b>	2/22/2011	0-60	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		60-80	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. Rounded to sub-rounded cobbles, very compact.
<b>*STP 27-36</b>	2/22/2011	0-25	Yes	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		25-50	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with few rounded to sub-rounded cobbles.
<b>STP 37-44</b>	2/23/2011	0-70	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		70-90	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 45</b>	2/23/2011	0-40	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		40-50	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown

SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

**\*Note:** STPs 28-35 were placed within the recorded location of Site 45PI66 (Methodist Episcopal Mission). One piece of fragmented red brick was located at 20cmbs in STP 28. A second red brick fragment was located at ground surface in STP 35.

## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

<b>Unit #</b>	<b>Date</b>	<b>Level cmbs</b>	<b>Cultural Materials</b>	<b>Soil Type</b>	<b>Munsell</b>	<b>Comments</b>
<b>STP 46-51</b>	2/25/2011	0-60	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		60-70	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 52-52</b>	2/25/2011	0-70	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		70-80	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 54</b>	2/25/2011	0-25	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		25-35	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 55-57</b>	2/25/2011	0-40	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		40-60	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 58</b>	2/25/2011	0-110	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		110-120	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown

SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

**Date: August 26, 2010**

<b>Unit #</b>	<b>Date</b>	<b>Level cmbs</b>	<b>Cultural Materials</b>	<b>Soil Type</b>	<b>Munsell</b>	<b>Comments</b>
<b>STP 59-60</b>	2/25/2011	0-40	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		40-60	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 61</b>	2/25/2011	0-35	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		35-55	None	Moist/GS/DYB	10 YR 4/6	Gravelly sand with no soil matrix. Rounded to sub-rounded cobbles, very compact.
		55-110	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		110-130	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 62</b>	2/25/2011	0-40	None	Moist/VFC/SL/DGB	10 YR 3/2	This layer is typically seen in the second horizon, with the darker (10 YR 2/2) high in organic matter overlying it. No signs of mixing in the stratigraphy.
		40-120	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		120-130	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 63-65</b>	2/25/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-70	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown

SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

<b>Unit #</b>		<b>Level cmb</b>	<b>Cultural Materials</b>	<b>Soil Type</b>	<b>Munsell</b>	<b>Comments</b>
<b>STP 66-70</b>	2/26/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-70	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 71-72</b>	2/26/2011	0-70	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		70-90	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 73-75</b>	2/26/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-70	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 76</b>	2/26/2011	0-70	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		70-90	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

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SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

<b>Unit #</b>		<b>Level cmbs</b>	<b>Cultural Materials</b>	<b>Soil Type</b>	<b>Munsell</b>	<b>Comments</b>
<b>STP 77</b>	2/26/2011	0-22	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		22-60	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, except for color. Medium to large cobbles start in this layer and become increasingly more compact.
		60-75	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>STP 78-80</b>	2/26/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-65	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 81-83</b>	2/26/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-70	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 84-85</b>	2/26/2011	0-35	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		35-45	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

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SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

<b>Unit #</b>	<b>Date</b>	<b>Level cmb</b>	<b>Cultural Materials</b>	<b>Soil Type</b>	<b>Munsell</b>	<b>Comments</b>
<b>STP 86-88</b>	2/26/2011	0-60	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		60-80	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 89</b>	2/26/2011	0-110	None	Moist/SL/VFC/B	7.5 Yr 4/4	Weak fine granular structure; soft, very friable, nonsticky and nonplastic, sooty feel, no cobbles or pebbles. This layer appears to be imported soil. The stratigraphy is uninterrupted until you reach 110 cmbs, where the typical underlying horizon appears. The typical upper horizon; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam appears to have been removed and imported soil placed. This STP was placed near the (66 feet) bridge abutment and could be that more stable soil was imported for the approach to the narrow-gauge bridge.
		110-130	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 90</b>	2/28/2011	0-15	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		15-40	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		40-50	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles

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SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

<b>Unit #</b>	<b>Date</b>	<b>Level cmbs</b>	<b>Cultural Materials</b>	<b>Soil Type</b>	<b>Munsell</b>	<b>Comments</b>
<b>STP 91</b>	2/28/2011	0-7	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		7-25	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 92-95</b>	2/28/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-70	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 96</b>	2/28/2011	0-40	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		40-50	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, except for color. Medium to large cobbles start in this layer and become increasingly more compact.
		50-60	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>STP 97-98</b>	2/28/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-70	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

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## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

<b>Unit #</b>	<b>Date</b>	<b>Level cmb</b>	<b>Cultural Materials</b>	<b>Soil Type</b>	<b>Munsell</b>	<b>Comments</b>
<b>STP 99</b>	2/28/2011	0-10	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		10-30	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 100-101</b>	2/28/2011	0-60	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		60-75	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 102</b>	2/28/2011	0-45	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		45-60	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, except for color. Medium to large cobbles start in this layer and become increasingly more compact.
		60-75	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>STP 103</b>	3/1/2011	0-20	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		20-30	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

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## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

<b>Unit #</b>	<b>Date</b>	<b>Level cmb</b>	<b>Cultural Materials</b>	<b>Soil Type</b>	<b>Munsell</b>	<b>Comments</b>
<b>STP 104</b>	3/1/2011	0-5	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		5-20	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 105</b>	3/1/2011	0-30	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		30-45	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		45-60	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>STP 106</b>	3/1/2011	0-60	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		60-70	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		70-80	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles

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SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

<b>Unit #</b>	<b>Date</b>	<b>Level cmbs</b>	<b>Cultural Materials</b>	<b>Soil Type</b>	<b>Munsell</b>	<b>Comments</b>
<b>STP 107-110</b>	3/1/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-65	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 111</b>	3/1/2011	0-65	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		65-80	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, except for color. Medium to large cobbles start in this layer and become increasingly more compact.
		80-90	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>STP 112</b>	3/1/2011	0-30	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		30-45	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown

SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

<b>Unit #</b>	<b>Date</b>	<b>Level cmb</b>	<b>Cultural Materials</b>	<b>Soil Type</b>	<b>Munsell</b>	<b>Comments</b>
<b>STP 113</b>	3/1/2011	0-25	None	Moist/GS/DG	2.5 Y 3.1	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		25-70	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		70-85	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 114</b>	3/1/2011	0-60	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		60-75	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		75-85	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>STP 115</b>	3/1/2011	0-200	Yes	Moist/GS/DG	2.5 Y 3.1	This unit is completely mixed (photo taken #58) the matrix resembles horizon 1 with Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam however, there is no stratigraphic distinction between 0-200 cmbs. A metal artifact was located at 160 cmbs. The artifact is a flat metal bar with 4-bolts protruding from one side.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown

SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown, DG = Dark Gray

## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

<b>Unit #</b>	<b>Date</b>	<b>Level cmb</b>	<b>Cultural Materials</b>	<b>Soil Type</b>	<b>Munsell</b>	<b>Comments</b>
<b>STP 116</b>	3/2/2011	0-25	None	Moist/GS/DG	2.5 Y 3.1	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		25-55	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		55-75	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 117-119</b>	3/2/2011	0-10	None	Moist/GS/DG	2.5 Y 3.1	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		10-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-65	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>STP 120</b>		0-20	None	Moist/VFC/SL/DYB	10 YR 3/4	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam. Medium to small cobbles rounded and subrounded. Small flecks of charcoal, indicative of a grass fire in the area.
		20-80	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		80-95	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown

SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
<b>STP 121-125</b>	3/2/2011	0-60	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam. Small flecks of charcoal, indicative of a grass fire in the area.
		60-80	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
<b>GTE 1</b>	3/3/2011	0-30	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		30-60	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, except for color. Medium to large cobbles start in this layer and become increasingly more compact.
		60-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>GTE 2</b>	3/3/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-305	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown

SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown, GTE = Geotechnical Excavation

## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

Unit #	Date	Level cmb	Cultural Materials	Soil Type	Munsell	Comments
<b>GTE 3</b>	3/3/2011	0-40	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		40-80	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		80-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>GTE 4</b>	3/3/2011	0-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>GTE 5</b>	3/3/2011	0-40	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		40-50	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		50-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>GTE 6</b>	3/3/2011	0-60	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		60-305	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

## Subsurface Testing Record

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown

SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown, GTE = Geotechnical Excavation

**Project: DuPont Industrial Partners, LLC, Lot Y      Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
<b>GTE 7</b>	3/3/2011	0-55	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		55-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>GTE 8</b>	3/3/2011	0-90	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		90-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>GTE 9</b>	3/3/2011	0-250	None	Moist/SL/VDB		This unit is completely mixed. There is a small (20cmbs) layer of sand on the surface and the rest is a mix between horizon 1 (10 YR 2/2) and sand. Very little cobbles. It appears to be fill material. This unit is in close proximity to a hot spot cleared for soil contamination.
<b>GTE 10</b>	3/3/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-305	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown

SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown, GTE = Geotechnical Excavation

## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
<b>GTE 11</b>	3/3/2011	0-5	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		5-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>GTE 12-13</b>	3/4/2011	0-65	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		65-75	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		75-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>GTE 14</b>	3/4/2011	0-5	None	Moist/VFC/SL/DYB	10 YR 3/4	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam. Small to medium cobble and become increasingly more compact.
		5-244	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles. Water hit at 244cmbs.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown

SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown, GTE = Geotechnical Excavation

## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

<b>Unit #</b>	<b>Date</b>	<b>Level cmb</b>	<b>Cultural Materials</b>	<b>Soil Type</b>	<b>Munsell</b>	<b>Comments</b>
<b>GTE 15</b>	3/4/2011	0-65	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		65-80	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, except for color. Medium to large cobbles start in this layer and become increasingly more compact.
		80-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>GTE 16-17</b>	3/4/2011	0-65	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		65-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>GTE 18-19</b>	3/4/2011	0-45	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		45-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles. Water hit at 244cmb.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown

SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown, GTE = Geotechnical Excavation

## Subsurface Testing Record

**Project: DuPont Industrial Partners, LLC, Lot Y**

**Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
<b>GTE 20</b>	3/4/2011	0-3	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		3-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>GTE 21</b>	3/4/2011	0-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
<b>GTE 22</b>		0-40	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		40-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown

SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown, GTE = Geotechnical Excavation

## Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y

Soils Photograph

Recorder: C. Arrington



Photograph 52. Showing horizon 1 (10 YR 2/2)



Photograph 53. Showing horizon 2 (10 YR 3/4)

## Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y

Soils Photograph

Recorder: C. Arrington



Photograph 44. Showing horizon 3 (2.5Y 4/4)



Photograph 61. Showing gray horizon (2.5 Y 3.1)  
Upper most layer in photograph

**APPENDIX D:**  
**Site and Isolate Record Forms**



# STATE OF WASHINGTON ARCHAEOLOGICAL SITE INVENTORY FORM

Smithsonian Number: PI01224

\*County: Pierce

\*Date: 7-19-2011 \*Compiler: C. Arrington

**Location Information Restrictions** (Yes/No/Unknown): No

## SITE DESIGNATION

**Site Name:** Narrow gauge railroad and berm

**Field/ Temporary ID:** GEO-RR10 (Update)

**\*Site Type** (Refer to the DAHP Survey and Inventory Guidelines Page 19): Historic Railroad Properties

## SITE LOCATION

**\*USGS Quad Map Name:** Nisqually

**\*Legal Description:** T19N R 1 E/W: E Section(s): 26

Quarter Section(s): NENW

**\*UTM:** Zone 10 Easting 526801 Northing 5217214

**Latitude:**                   **Longitude:**                   **Elevation (FT/M):** 220ft

**Other Maps:**                   **Type:**

**Scale:**                   **Source:**

**Drainage, Major:** Sequalitchew Creek           **Drainage, Minor:**           **River Mile:**

**Aspect:**                   **Slope:** 1-3%

**\*Location Description (General to Specific):** This site is located on the north side of Sequalitchew Creek, northwest of the Town of DuPont. It is situated east of the old DuPont works property. The area is disturbed and is dominated by grasses and brushy plants. The project area is situated within the Puget Trough physiographic province (Franklin and Dyrness 1973) approximately 1 mile east of the southern part of Puget Sound shoreline. Sequalitchew Creek drains the Edmond's Marsh area about 1 mile east, and empties into Puget Sound approximately 1.5 miles to the northwest. The Puget Trough is a basin that lies between the Coast Range to the west and the Cascade Range to the east.

**Approach (For Relocation Purposes):** From I-5 take the DuPont Center Drive exit (north) approximately 1.5 miles to Power Road, turning left, to the intersection of a gravel road (205 feet). The isolate is located on the north side of the gravel road, 736feet from the intersection of Power Road (at the end of gravel just before the chain-link fence) and approximately 22 feet due north of the gravel road.

**SITE DESCRIPTION****\*Narrative Description:**

This site is an extension of site GEO-RR10 recorded on September 28, 2010 for Creekside DuPont Partners. The site is a non-functional narrow-gauge railroad track situated on an earthen berm bisecting the eastern edge of the project area. The earthen berm is approximately 20 inches in height and roughly 20 feet in width. The narrow gauge tracks extend 207 feet east from the eastern project area boundary (chain link fence) running due west. The site is covered with lichen, and trees growing through the tracks and the berm. Within the project area, the tracks end at an earthen mound that appears to have been dug immediately adjacent to the southeast side of the tracks (burrow pit). The narrow-gauge track and berm continue to the east beneath a chain-link fence for a distance of 98 feet beyond the project area. The short abandoned track and berm segment within the project area are attributed to construction by the DuPont Powder Works; the narrow-gauge railroad was used to transport their products during the Old Town period (1906-1920s). There was no evidence of artifacts or cultural deposits in association with the tracks or berm, and this site is not recommended eligible for listing on the NRHP or Washington Heritage Register (WHR). The eastern end of the spur was truncated presumably after DuPont Powder Works closed in 1976.

**\*Site Type** (Refer to the DAHP Survey and Inventory Guidelines Page 19): Historic Railroad Properties

**\*Site Dimensions**

\*Length: 207 feet \*Direction: E/W x \*Width: 20 feet \*Direction: N/S

\*Method of Horizontal Measurement: GPS

\*Depth: Surface \* Method of Vertical Measurement: GPS

**\*\*Vegetation (On Site):** Mostly grasses and scotch broom

**Local:** Douglas fir, Pacific madrone, red alder, elderberry, sword fern

**Local:** Glacial Plain

**Water Resources (Type):** Sequalitchew Creek **Distance:** 426 feet SW **Permanence:** year round

**\*Method of Collection(s):** No materials collected

**CULTURAL MATERIALS AND FEATURES****\*Narrative Description:**

This site was originally recorded by Arrington during survey in 2010 of the 12.8-acre property (known as Lot X) adjacent to the eastern edge of Lot Y (Sikes and Arrington 2010). It is a non-functional segment of a narrow-gauge railroad track situated on an earthen berm; it extends into both Lots X and Y beneath a chain-link fence marking the property boundaries. The track and berm bisect the eastern edge of the Lot Y project area. The earthen berm is approximately 20 inches high and 20 feet wide. The narrow gauge track extends 207 feet west from the eastern project area boundary. The site is covered with forest duff, lichen, and scotch broom. The narrow-gauge track and berm continue east into Lot X beneath the chain-link fence for approximately 98 feet.

The short abandoned track and berm segment are attributed to construction by the DuPont Powder Works; the narrow-gauge railroad was used to transport their products during the Old Town period (1906-1920s). This site is recommended ineligible for listing on the NRHP or WHR. The segment is in poor condition with no evidence of associated artifacts or cultural deposits and has no potential to yield additional information. The eastern end of the spur was truncated presumably after DuPont Powder Works closed in 1976.

**\*Method of Collection(s):** None**\*Location of Artifacts (Temporary/Permanent):** N/A**SITE AGE****\*Component:** \*Dates: 1906-1920s      **\*Dating Method:****Phase:**      **Basis for Phase Designation:**

The short abandoned track and berm segment within the project area are attributed to construction by the DuPont Powder Works; the narrow-gauge railroad was used to transport their products during the Old Town period (1906-1920s).

**SITE RECORDERS****Observed by:** C. Arrington and Pete Morris**\*Date Recorded:** February 17, 2011**\*Recorded by (Professional Archaeologist):** Cindy Arrington**\*Affiliation:** Parus Consulting, Inc.**\*Affiliation Phone Number:** 916-782-5818**\*Affiliation Address:** 1508 Eureka Road, Suite 170, Roseville, CA 95661**\*Affiliation E-mail:** cindy@parusconsulting.com**Date Revisited:****Revisited By:****SITE HISTORY****Previous Work (Done on Archaeological Site):**

Year	Author(s)	Report Title	Proximity to project
1977	Onat, A.R., Lee A. Bennett, and Timothy Riorda	Cultural Resources Survey: DuPont Site, Volume I Survey of Archaeological and Ethnographical Resources at the DuPont Site	Within and near project area
1977	Stratton, David H., and Glen W Lindeman	Cultural Resource Survey, DuPont Site, Volume II: Survey of Historical Resources at the DuPont Site.	Within and near project area
1989	Welch, Jeanne	A Cultural Overview and Comprehensive Management Plan for the DuPont Property, Pierce County, Washington	Within and near project area
1991	Moura, Guy F.	Missions, War Games, and Railroad Dumps: 1989 Explorations and Excavations, Northwest Landing, DuPont, Washington	Within project area
2000	Daugherty, Richard, and Mary Condon	Archaeological Monitoring of the "Hot Spot" Removal Program, the Hazardous Waste Stockpile Areas, and Sand Stockpile Laydown Areas at the Former DuPont Works Site, DuPont, Washington	Within project area
2001	Daugherty, Richard, and Mary Condon	An Update on the Archaeological Status of Sites 45PI63 (A Trash Dump Located Along a Railroad Spur), 45PI64 (Burning Ground Dump), 45PI66 (Methodist Episcopal Mission), and 45PI455 (Part of the 9 <sup>th</sup> Cavalry Bivouac Area)	Within and near project area
2005	Wessen, Gary, Cathy Bialas and Gail Thompson	Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near project area
2008	Wessen, Gary, Cathy Bialas, Derek Shaw and Gail Thompson	Revised Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near project area

**LAND OWNERSHIP**

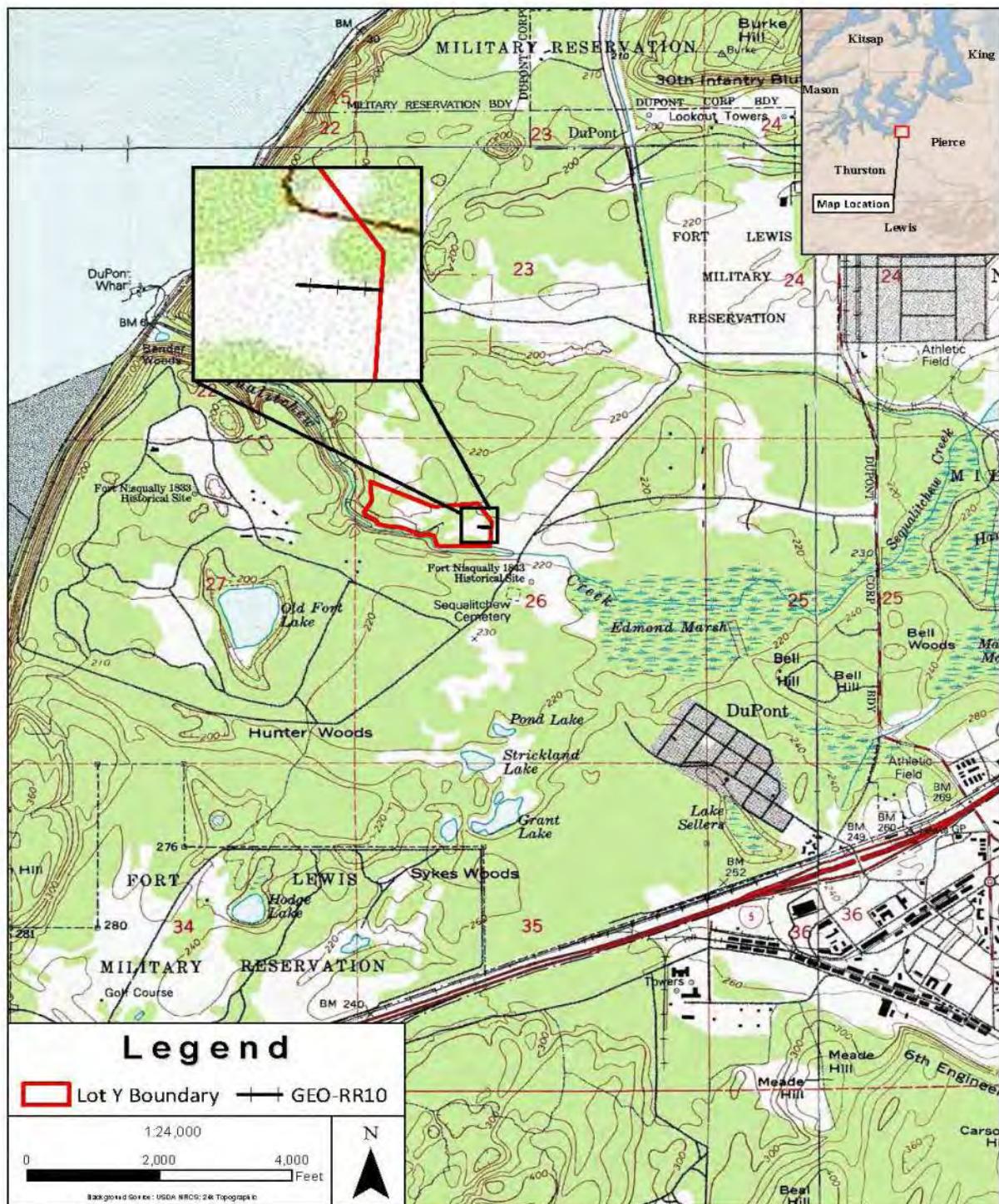
\*Owner: DuPont Industrial Partners, LLC  
Address: 1201 Pacific Avenue, Suite 1501  
Tacoma, WA 98402

\*Tax Lot/ Parcel No:

**RESEARCH REFERENCES**

\*Items/Documents Used In Research (Specify): 1973 Franklin, Jerry F., and C. T. Dyrness  
*Natural Vegetation of Oregon and Washington*. Pacific Northwest Forest and Range Experiment Station, U.S. Forest Service, Portland, Oregon.

USGS MAP



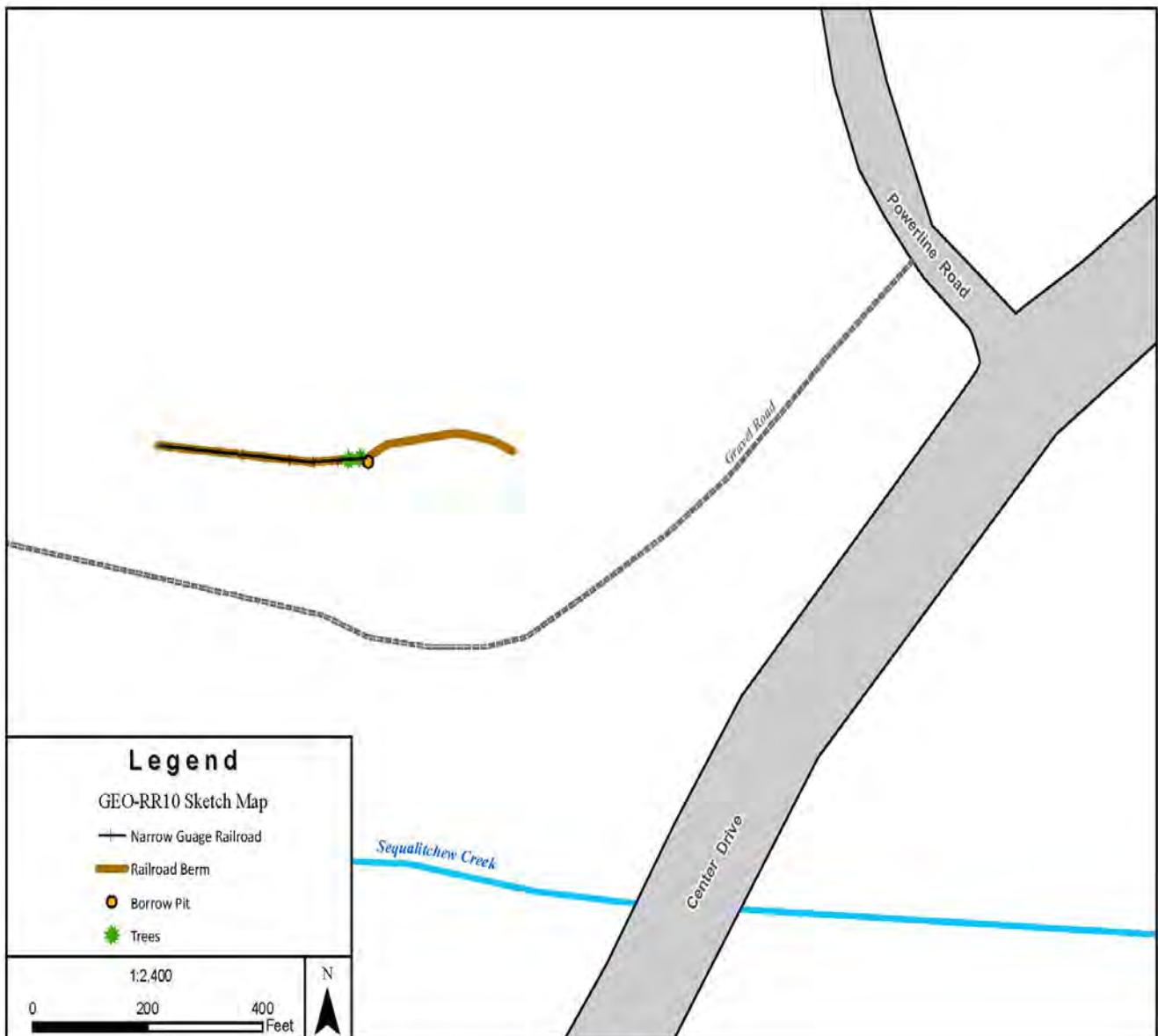
Quad Name: Nisqually PR 1981

T19N, R 1E, Section 26

DuPont Lot Y: GEO-RR10 Location Map

**PARUS**  
CONSULTING, INC.

## SKETCH MAP



Quad Name: Nisqually PR 1991  
T19N, R. 1E, Section 2E  
GEO-RR10 Sketch Map



**PHOTOGRAPH(S)**



Figure 1: Geo RR10 extension (view to east)



# STATE OF WASHINGTON ARCHAEOLOGICAL SITE INVENTORY FORM

**Smithsonian Number:** PI01225

**\*County:** Pierce

**\*Date:** 7-19-2011    **\*Compiler:** C. Arrington

**Location Information Restrictions** (Yes/No/Unknown): No

## SITE DESIGNATION

**Site Name:** Concrete Platform

**Field/ Temporary ID:** Parus-01-11

**\*Site Type** (Refer to the DAHP Survey and Inventory Guidelines Page 19): Historic Railroad Properties

## SITE LOCATION

**\*USGS Quad Map Name:** Nisqually

**\*Legal Description:** T19N R 1 E/W: E Section(s): 26

Quarter Section(s): NENW

**\*UTM:** Zone 10 Easting 526780 Northing 5217203

**Latitude:**                    **Longitude:**                    **Elevation (FT/M):** 220ft

**Other Maps:**                    **Type:**

**Scale:**                    **Source:**

**Drainage, Major:** Sequalitchew Creek                    **Drainage, Minor:**                    **River Mile:**

**Aspect:**                    **Slope:** 1-3%

**\*Location Description** (General to Specific): This site is located on the north side of Sequalitchew Creek, northwest of the Town of DuPont. It is situated east of the old DuPont works property. The area is disturbed and is dominated by grasses and brushy plants. The project area is situated within the Puget Trough physiographic province (Franklin and Dyrness 1973) approximately 1 mile east of the southern part of Puget Sound shoreline. Sequalitchew Creek drains the Edmond's Marsh area about 1 mile east, and empties into Puget Sound approximately 1.5 miles to the northwest. The Puget Trough is a basin that lies between the Coast Range to the west and the Cascade Range to the east.

**Approach** (For Relocation Purposes): From I-5 take the DuPont Center Drive exit (north) approximately 1.5 miles to Power Road, turning left, to the intersection of a gravel road (205 feet). The isolate is located on the north side of the gravel road, 979 feet from the intersection of Power Road and approximately 76 feet due north of the gravel road.

**SITE DESCRIPTION****\*Narrative Description:**

The loading platform is located 233 feet west of the eastern boundary of the project area, 76 feet due north of the existing gravel road. The platform is situated in hot spot #3 where the area was cleared of topsoil, using a mechanical backhoe in 2001 due to soil contamination and remediation efforts.

Vegetation within the site area consists of open second growth conifer forest dominated by Douglas fir, sword fern, and scotch broom, and includes red alder, elderberry, and grasses. Visibility on the surrounding ground surface is poor ranging from 10-30 percent.

**\*Site Type** (Refer to the DAHP Survey and Inventory Guidelines Page 19): Historic Railroad Properties**\*Site Dimensions**

\*Length: 16 feet \*Direction: E/W x \*Width: 16 feet \*Direction: N/S

\*Method of Horizontal Measurement: Tapped

\*Depth: 6' 5" above ground surface \* Method of Vertical Measurement: Tapped

**\*\*Vegetation (On Site):** Mostly grasses and scotch broom

**Local:** Douglas fir, Pacific madrone, red alder, elderberry, sword fern

**Local:** Glacial Plain

**Water Resources (Type):** Sequalitchew Creek **Distance:** 384 feet south **Permanence:** year round

**\*Method of Collection(s):** No materials collected

**CULTURAL MATERIALS AND FEATURES**

**\*Narrative Description:**

A concrete loading platform is located approximately where the standard-gauge and one of the narrow-gauge tracks previously crossed near the eastern edge of Lot Y. The platform is visible on satellite imagery, but was previously unrecorded. During the functional period of the platform, it likely was used for loading or unloading materials onto DuPont Powder Works trains that would have moved east to west and north to south past the platform.

The platform is primarily concrete, with a steel railing as a perimeter of the upper platform surface. The platform is 192 inches square and 77 inches tall. The surface perimeter has a 3-inch concrete lip with occasional breaks to permit loading access. There is an arrangement of 2-inch by 6-inch wood boards bolted to the interior surface of the concrete lip, with a steel railing situated along the perimeter lip of the platform. The railing is painted yellow and is 39.5 inches tall, with a lower bar and upper bar. The lower bar is 19.5 inches high, and the upper bar is 39 inches high. There are openings in the rail with steel chains stretched across on the south and east sides of the platform; one opening is 55 inches wide, and the other is 51 inches wide.

On the north side of the platform there is a 30-inch wide opening that appears to be a person-access stepping platform, with vertical handrails and a swinging safety bar (non-operational). On the east of the platform is a small debris pile consisting of heavy-gauge sheet metal, milled lumber, crushed pipe (1.5-inch diameter), and steel railing segment with chain. The platform is built with well sorted aggregate, form poured concrete. It does not appear on the very detailed 1955 map drawn by E. Davies. Locals recall the platform was not built until the early 1960s and then it was seldom used (personal communication, Fred Foreman). This site has no potential to yield additional information and is recommended ineligible for listing on the NRHP or WHR.

**\*Method of Collection(s):** None

**\*Location of Artifacts (Temporary/Permanent):** N/A

**SITE AGE**

**\*Component:**

**\*Dates:** 1960s

**\*Dating Method:**

**Phase:**

**Basis for Phase Designation:**

**ARCHAEOLOGICAL SITE INVENTORY FORM**Smithsonian Number: PI01225

Page 4 of 9

**SITE RECORDERS****Observed by:** C. Arrington and Pete Morris**\*Date Recorded:** February 17, 2011**\*Recorded by (Professional Archaeologist):** Cindy Arrington**\*Affiliation:** Parus Consulting, Inc.**\*Affiliation Phone Number:** 916-782-5818**\*Affiliation Address:** 1508 Eureka Road, Suite 170, Roseville, CA 95661**\*Affiliation E-mail:** cindy@parusconsulting.com**Date Revisited:****Revisited By:****SITE HISTORY****Previous Work (Done on Archaeological Site):**

Year	Author(s)	Report Title	Proximity to project
1977	Onat, A.R., Lee A. Bennett, and Timothy Riordan	Cultural Resources Survey: DuPont Site, Volume I Survey of Archaeological and Ethnographical Resources at the DuPont Site	Within and near project area
1977	Stratton, David H., and Glen W Lindeman	Cultural Resource Survey, DuPont Site, Volume II: Survey of Historical Resources at the DuPont Site.	Within and near project area
1989	Welch, Jeanne	A Cultural Overview and Comprehensive Management Plan for the DuPont Property, Pierce County, Washington	Within and near project area
1991	Moura, Guy F.	Missions, War Games, and Railroad Dumps: 1989 Explorations and Excavations, Northwest Landing, DuPont, Washington	Within project area
2000	Daugherty, Richard, and Mary Condon	Archaeological Monitoring of the "Hot Spot" Removal Program, the Hazardous Waste Stockpile Areas, and Sand Stockpile Laydown Areas at the Former DuPont Works Site, DuPont, Washington	Within project area
2001	Daugherty, Richard, and Mary Condon	An Update on the Archaeological Status of Sites 45PI63 (A Trash Dump Located Along a Railroad Spur), 45PI64 (Burning Ground Dump), 45PI66 (Methodist Episcopal Mission), and 45PI455 (Part of the 9 <sup>th</sup> Cavalry Bivouac Area)	Within and near project area
2005	Wessen, Gary, Cathy Bialas and Gail Thompson	Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near project area
2008	Wessen, Gary, Cathy Bialas, Derek Shaw and Gail Thompson	Revised Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near project area

**LAND OWNERSHIP**

\*Owner: DuPont Industrial Partners, LLC  
Address: 1201 Pacific Avenue, Suite 1501  
Tacoma, WA 98402

\*Tax Lot/ Parcel No:

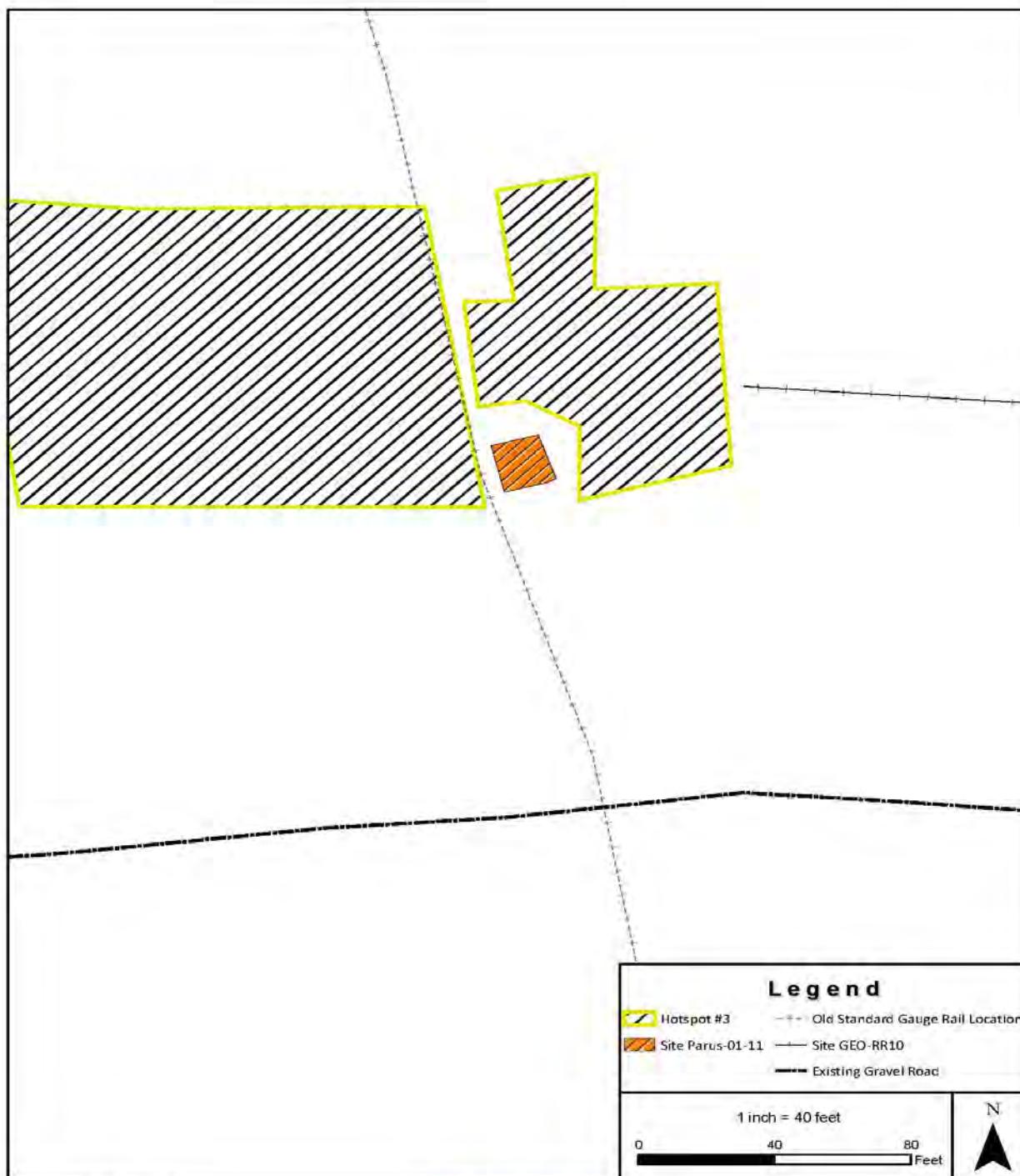
**RESEARCH REFERENCES**

\*Items/Documents Used In Research (Specify): 1973 Franklin, Jerry F., and C. T. Dyrness *Natural Vegetation of Oregon and Washington*. Pacific Northwest Forest and Range Experiment Station, U.S. Forest Service, Portland, Oregon.

## USGS MAP



## SKETCH MAP



Quad Name: Nisqually PR 1981  
T19N, R 1E, Section 26  
DuPont Lot Y: Parus-01-11 Sketch Map



**PHOTOGRAPH(S)****Figure 1: East side of platform (view to west)****Figure 2: North side of platform (view to southwest)**

**PHOTOGRAPH(S)**

**Figure 3: West side of platform (view to northeast)**



**Figure 4: Debris pile on east side of platform (view to north)**



# STATE OF WASHINGTON ARCHAEOLOGICAL SITE INVENTORY FORM

Smithsonian Number: PI01226

\*County: Pierce

\*Date: 7-19-2011 \*Compiler: C. Arrington

**Location Information Restrictions** (Yes/No/Unknown): No

## SITE DESIGNATION

**Site Name:** Bridge Abutment – Narrow-Gauge Railroad

**Field/ Temporary ID:** Parus-02-11

**\*Site Type** (Refer to the DAHP Survey and Inventory Guidelines Page 19): Historic Railroad Properties

## SITE LOCATION

**\*USGS Quad Map Name:** Nisqually

**\*Legal Description:** T19N R 1 E/W: E Section(s): 26

Quarter Section(s): SWNW

**\*UTM:** Zone 10 Easting 526592 Northing 5217123

**Latitude:**                   **Longitude:**                   **Elevation (FT/M):** 222ft

**Other Maps:**                   **Type:**

**Scale:**                   **Source:**

**Drainage, Major:** Sequalitchew Creek                   **Drainage, Minor:**                   **River Mile:**

**Aspect:**                   **Slope:** 1-3%

**\*Location Description (General to Specific):** This site is located on the north side of Sequalitchew Creek, northwest of the Town of DuPont. It is situated east of the old DuPont works property. The area is disturbed and is dominated by grasses and brushy plants. The project area is situated within the Puget Trough physiographic province (Franklin and Dyrness 1973) approximately 1 mile east of the southern part of Puget Sound shoreline. Sequalitchew Creek drains the Edmond's Marsh area about 1 mile east, and empties into Puget Sound approximately 1.5 miles to the northwest. The Puget Trough is a basin that lies between the Coast Range to the west and the Cascade Range to the east.

**Approach (For Relocation Purposes):** From I-5 take the DuPont Center Drive exit (north) approximately 1.5 miles to Power Road, turning left, to the intersection of a gravel road (205 feet). The site is located on the south side of the gravel road, 1,348 feet from the intersection of Power Road and approximately 467 feet due south of the gravel road.

**SITE DESCRIPTION****\*Narrative Description:**

The site, a narrow-gauge railroad bridge (depicted on the E. Davies 1955 map), is located on the north bank of Sequalitchew Creek, 467 feet due south of the gravel road. There are two additional abutments, both an upper and lower, on the south bank of the creek and look to be identical to those located on the north bank.

The abutments are covered with moss, and is surrounded by decomposing forest duff and vegetation, including ferns, conifers, deciduous trees, and grasses. Visibility on the surrounding ground surface is poor ranging from 0-10 percent.

**\*Site Type** (Refer to the DAHP Survey and Inventory Guidelines Page 19): Historic Railroad Properties**\*Site Dimensions**

Upper abutment \*Length: 128 inches \*Direction: E/W x \*Width: 12.5 inches \*Direction: E/W

Lower abutment \*Length: 150 inches \*Direction: E/W x \*Width: 12 inches \*Direction: E/W

\*Method of Horizontal Measurement: Tapped

\*Depth: 51 inches for upper and 32 inches for lower above ground surface

\* Method of Vertical Measurement: Tapped

**\*\*Vegetation (On Site):** The abutment is covered with moss, and is surrounded by decomposing forest duff and vegetation, including ferns, conifers, deciduous trees, and grasses.

**Local:** Douglas fir, Pacific madrone, red alder, elderberry, sword fern

**Local:** Glacial Plain

**Water Resources (Type):** Sequalitchew Creek **Distance:** 35 feet south **Permanence:** year round

**\*Method of Collection(s):** No materials collected

**CULTURAL MATERIALS AND FEATURES****\*Narrative Description:**

This site is comprised of the remnants of a narrow-gauge railroad bridge that traversed Sequalitchew Creek from north to south. This bridge crossing is shown on the 1955 map drawn by E. Davies. The remains include two concrete abutments that have a 165-inch horizontal separation. Both abutments have a poured-form aggregate concrete construction, with a smooth finished top. The lower abutment is 150 inches long, 32 inches high from the ground, and 12 inches wide at the top. The upper abutment is 128 inches long, 51 inches high from the ground, with the base at 20 inches wide, and the top of the abutment 12.5 inches wide. The abutments are covered with moss and are surrounded by decomposing forest duff and vegetation, including ferns, conifers, deciduous trees, and grasses.

The set of abutments is immediately outside of the Lot Y project area, and 35 feet north of Sequalitchew Creek. There are two pieces of milled lumber located between the abutments; they are each 6 by 6 inches, but vary in length. One piece is 45 inches long, and the other is 60 inches long. The longer piece is intact, and has a 5-inch by 8.5-inch metal cleat with spikes on one side. An identical set of concrete abutments is visible on the south side of the creek outside the project area.

This bridge was the only narrow-gauge railroad bridge within the DuPont Powder Works to cross Sequalitchew Creek, and is shown on the 1955 map drawn by E. Davies. It was used for transport of material by train from the plant to the burning ground (later recorded as 45PI64) and then proceeding further north to the storage area (personal communication, Fred Foreman and Johanna Jones). The bridge was removed in the late 1990s. The remaining set of abutments has no potential to yield additional information and is recommended ineligible for listing on the NRHP or WHR.

**\*Method of Collection(s):** None**\*Location of Artifacts (Temporary/Permanent):** N/A**SITE AGE****\*Component:** **\*Dates:** 1906-1920s **\*Dating Method:****Phase:** **Basis for Phase Designation:**

The narrow-gauge bridge is attributed to construction by the DuPont Powder Works; the narrow-gauge railroad was used to transport their products during the Old Town period (1906-1920s).

**ARCHAEOLOGICAL SITE INVENTORY FORM**Smithsonian Number: PI01226

Page 4 of 10

**SITE RECORDERS****Observed by:** C. Arrington and P. Morris**\*Date Recorded:** February 17, 2011**\*Recorded by (Professional Archaeologist):** Cindy Arrington**\*Affiliation:** Parus Consulting, Inc.**\*Affiliation Phone Number:** 916-782-5818**\*Affiliation Address:** 1508 Eureka Road, Suite 170, Roseville, CA 95661**\*Affiliation E-mail:** cindy@parusconsulting.com**Date Revisited:****Revisited By:****SITE HISTORY****Previous Work (Done on Archaeological Site):**

Year	Author(s)	Report Title	Proximity to project
1977	Onat, A.R., Lee A. Bennett, and Timothy Riordan	Cultural Resources Survey: DuPont Site, Volume I Survey of Archaeological and Ethnographical Resources at the DuPont Site	Within and near project area
1977	Stratton, David H., and Glen W Lindeman	Cultural Resource Survey, DuPont Site, Volume II: Survey of Historical Resources at the DuPont Site.	Within and near project area
1989	Welch, Jeanne	A Cultural Overview and Comprehensive Management Plan for the DuPont Property, Pierce County, Washington	Within and near project area
1991	Moura, Guy F.	Missions, War Games, and Railroad Dumps: 1989 Explorations and Excavations, Northwest Landing, DuPont, Washington	Within project area
2000	Daugherty, Richard, and Mary Condon	Archaeological Monitoring of the "Hot Spot" Removal Program, the Hazardous Waste Stockpile Areas, and Sand Stockpile Laydown Areas at the Former DuPont Works Site, DuPont, Washington	Within project area
2001	Daugherty, Richard, and Mary Condon	An Update on the Archaeological Status of Sites 45PI63 (A Trash Dump Located Along a Railroad Spur), 45PI64 (Burning Ground Dump), 45PI66 (Methodist Episcopal Mission), and 45PI455 (Part of the 9 <sup>th</sup> Cavalry Bivouac Area)	Within and near project area
2005	Wessen, Gary, Cathy Bialas and Gail Thompson	Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near project area
2008	Wessen, Gary, Cathy Bialas, Derek Shaw and Gail Thompson	Revised Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near project area

**LAND OWNERSHIP**

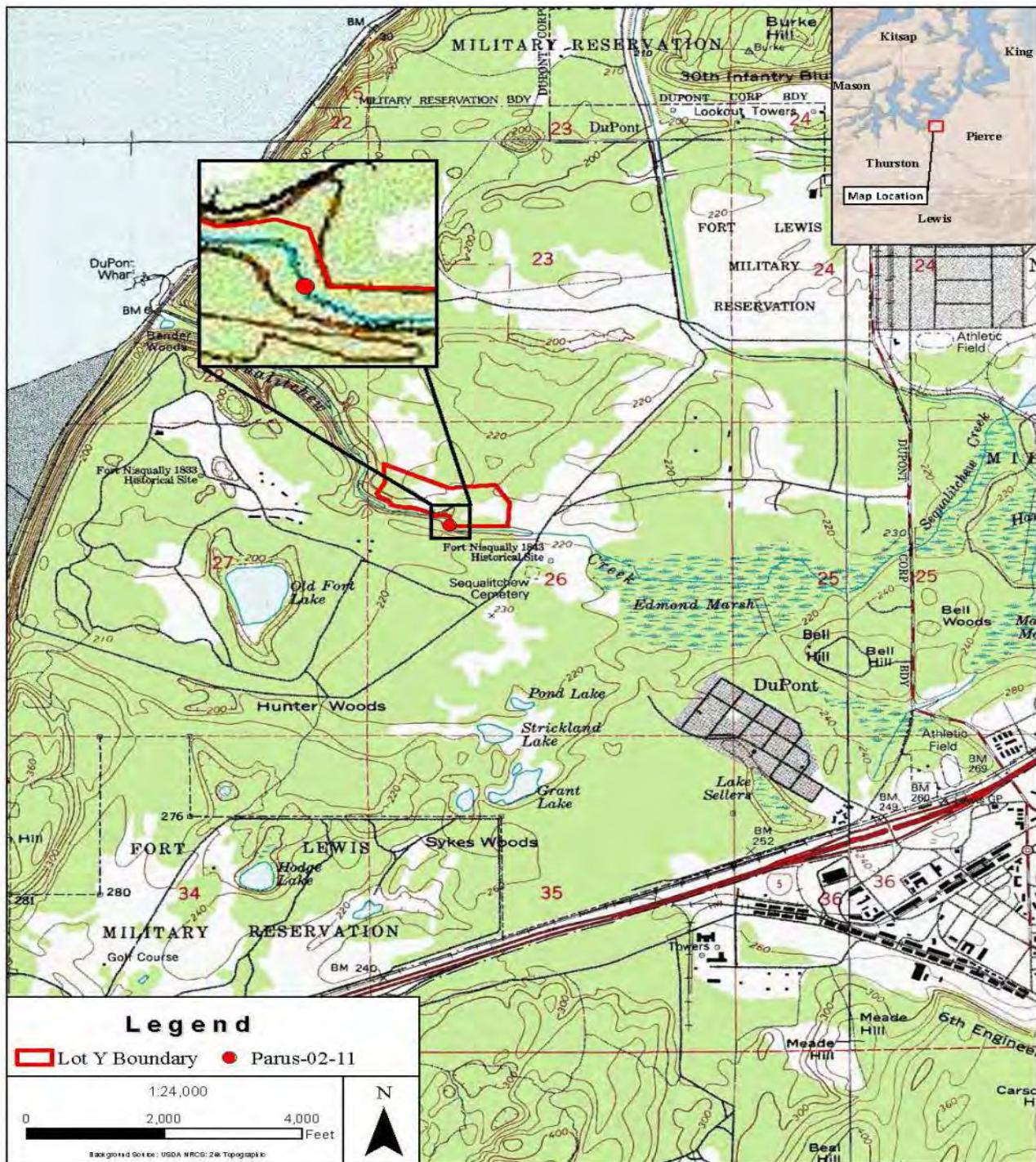
\*Owner: DuPont Industrial Partners, LLC  
Address: 1201 Pacific Avenue, Suite 1501  
Tacoma, WA 98402

\*Tax Lot/ Parcel No:

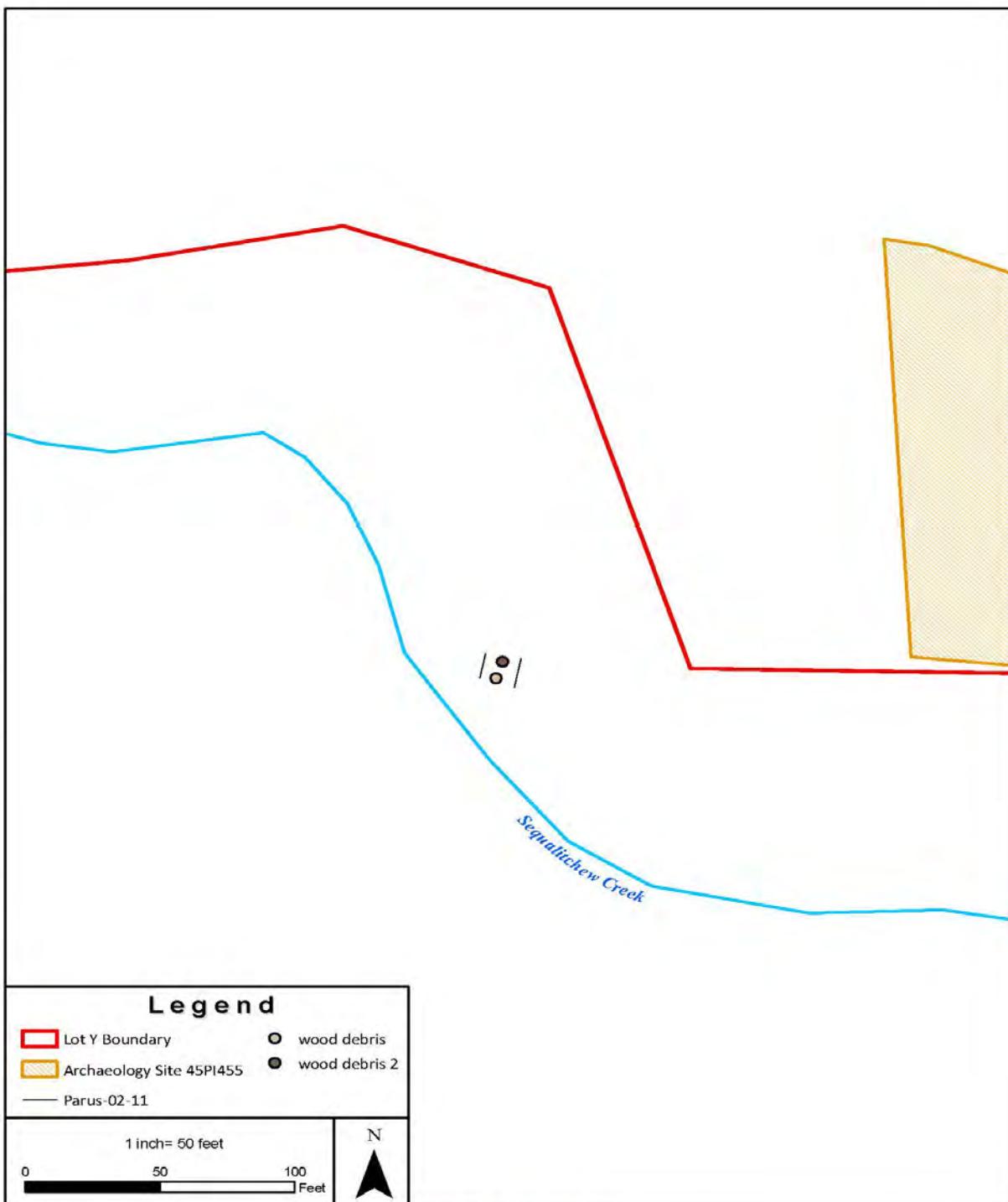
**RESEARCH REFERENCES**

\*Items/Documents Used In Research (Specify): 1973 Franklin, Jerry F., and C. T. Dyrness  
*Natural Vegetation of Oregon and Washington*. Pacific Northwest Forest and Range Experiment Station, U.S. Forest Service, Portland, Oregon.

## USGS MAP



## SKETCH MAP



Quad Name: Nisqually PR 1981  
T19N, R.1E, Section 26  
DuPont Lot Y: Parus-02-11 Sketch Map



**PHOTOGRAPH(S)****Figure 1: Upper and lower abutments (view to north)****Figure 2: South face of lower abutment (view to north)**

**PHOTOGRAPH(S)****Figure 3: East side of upper abutment (view to west)**

**PHOTOGRAPH(S)****Figure 4: Wood debris near lower abutment (plan view)****Figure 5: Wood debris with metal cleat near lower abutment (plan view)**



# STATE OF WASHINGTON ARCHAEOLOGICAL ISOLATE INVENTORY FORM

Smithsonian Number: PI00064

\*County: Pierce

\*Date: 2-17-2011 \*Compiler: C. Arrington

## ISOLATE DESIGNATION

**Isolate Name:** Kerosene Can

**Field/ Temporary ID:** Parus Isolate #1

**\*Site Type** (Refer to the DAHP Survey and Inventory Guidelines Pages 19-23): Historic isolate

## ISOLATE LOCATION

**\*USGS Quad Map Name:** Nisqually

**\*Legal Description:** T19N R 1 E/W: E Section(s): 26

Quarter Section(s): NWNW

**\*UTM:** Zone 10 Easting 526413 Northing 5217323

**Latitude:**                   **Longitude:**                   **Elevation (FT/M):** 220ft

**Other Maps:**                   **Type:**

**Scale:**                   **Source:**

**Drainage, Major:** Sequalitchew Creek           **Drainage, Minor:**           **River Mile:**

**Aspect:**                   **Slope:** 1-3%

**\*Location Description (General to Specific):** This isolate is located on the north side of Sequalitchew Creek, northwest of the Town of DuPont. It is situated east of the old DuPont works property. The area is disturbed and is dominated by grasses and brushy plants. The project area is situated within the Puget Trough physiographic province (Franklin and Dyrness 1973) approximately 1 mile east of the southern part of Puget Sound shoreline. Sequalitchew Creek drains the Edmond's Marsh area about 1 mile east, and empties into Puget Sound approximately 1.5 miles to the northwest. The Puget Trough is a basin that lies between the Coast Range to the west and the Cascade Range to the east.

## ISOLATE DESCRIPTION

**\*Narrative Description:** A galvanized kerosene can was located near the edge of the northwest corner of the area known locally as the "gravel pit" (HS-6 on Figure 2) and formerly the burning ground (45PI64). The sides of the can are dented and it exhibits some oxidation. It is missing the pour spout and wire handle, but is mostly intact. The top is domed and ribbed, and the base diameter is 11 inches, with a height of 14 inches. The dimensions suggest the volume of this can was approximately 5 gallons. Considering the lengthy range of manufacture, the age of the can is undeterminable.

**\*Vegetation (On Site):** Mostly grasses, deciduous and conifer trees, and scotch broom

**Local:** Douglas fir, Pacific madrone, red alder, elderberry, sword fern

**Local:** Glacial Plain

**Water Resources (Type):** Sequalitchew Creek **Distance:** 474 feet South **Permanence:** year round

**\*Method of Collection(s):** No materials collected

## ISOLATE AGE

**\*Component:** None

**\*Dates:** None

**\*Dating Method:** None

**Phase:** None

**Basis for Phase Designation:** None

## ISOLATE RECORDERS

**Observed by:** C. Arrington & Pete Morris

**\*Date Recorded:** February 17, 2011

**\*Recorded by (Professional Archaeologist):** Cindy Arrington

**\*Affiliation:** Parus Consulting, Inc

**\*Affiliation Phone Number:** 916-765-9381

**\*Affiliation Address:** 1508 Eureka Road, Suite 170, Roseville, CA

**\*Affiliation E-mail:** Cindy@parusconsulting.com

**Date Revisited:**

**Revisited By:**

## ISOLATE HISTORY

**Previous Work (Done on Area Where Isolate was Found):**

Year	Author(s)	Report Title	Proximity to project
1977	Onat, A.R., Lee A. Bennett, and Timothy Riordan	Cultural Resources Survey: DuPont Site, Volume I, Survey of Archaeological and Ethnographical Resources at the DuPont Site	Within and near project area
1977	Stratton, David H., and Glen W Lindeman	Cultural Resource Survey, DuPont Site, Volume II: Survey of Historical Resources at the DuPont Site.	Within and near project area
1989	Welch, Jeanne	A Cultural Overview and Comprehensive Management Plan for the DuPont Property, Pierce County, Washington	Within and near project area
1991	Moura, Guy F.	Missions, War Games, and Railroad Dumps: 1989 Explorations and Excavations, Northwest Landing, DuPont, Washington	Within project area
2000	Daugherty, Richard, and Mary Condon	Archaeological Monitoring of the "Hot Spot" Removal Program, the Hazardous Waste Stockpile Areas, and Sand Stockpile Laydown Areas at the Former DuPont Works Site, DuPont, Washington	Within project area
2001	Daugherty, Richard, and Mary Condon	An Update on the Archaeological Status of Sites 45PI63 (A Trash Dump Located Along a Railroad Spur), 45PI64 (Burning Ground Dump), 45PI66 (Methodist Episcopal Mission), and 45PI455 (Part of the 9 <sup>th</sup> Cavalry Bivouac Area)	Within and near project area
2005	Wessen, Gary, Cathy Bialas and Gail Thompson	Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near project area
2008	Wessen, Gary, Cathy Bialas, Derek Shaw and Gail Thompson	Revised Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near project area

## LAND OWNERSHIP

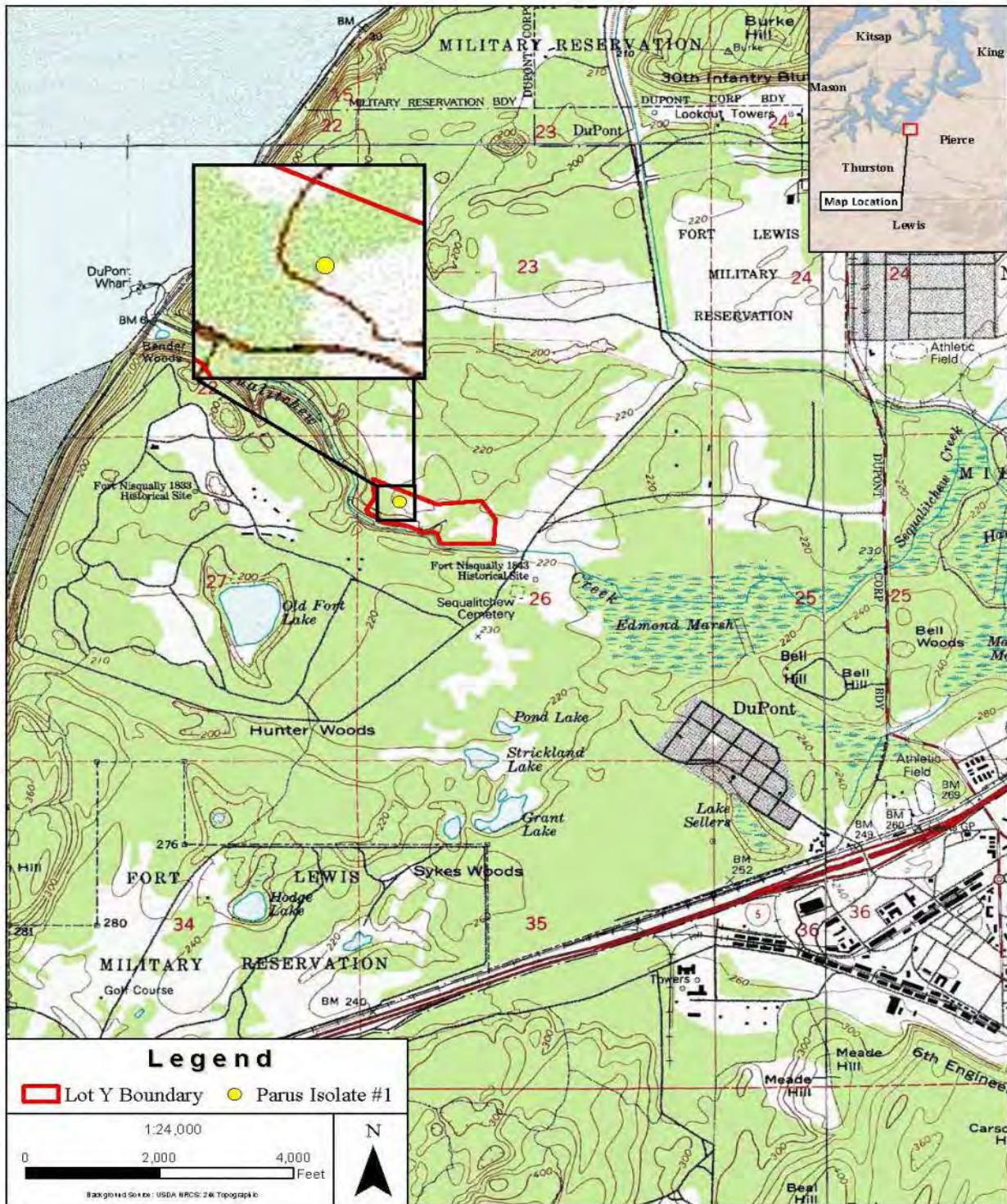
**\*Owner:** DuPont Industrial Partners, LLC  
**Address:** 1201 Pacific Avenue, Suite 1501, Tacoma, WA 98402

**\*Tax Lot/ Parcel No:**

## RESEARCH REFERENCES

**\*Items/Documents Used In Research (Specify):** 1973 Franklin, Jerry F., and C. T. Dyrness  
*Natural Vegetation of Oregon and Washington*. Pacific Northwest Forest and Range Experiment Station, U.S. Forest Service, Portland, Oregon.

USGS MAP



**PHOTOGRAPH(S)**



**Figure 1 Kerosene can (in situ)**



**Figure 2 Kerosene can (top missing spout and handle)**

**PHOTOGRAPH(S)**



**Figure 3 Kerosene can (side view)**



**Figure 4 Kerosene can (side view)**

**APPENDIX E:**  
**Unanticipated Cultural Resources Discovery Plan**

UNANTICIPATED CULTURAL RESOURCES DISCOVERY PLAN  
FOR  
DU PONT INDUSTRIAL PARTNERS, LLC, LOT Y PROJECT  
CITY OF DU PONT, PIERCE COUNTY, WASHINGTON

Prepared For:

**DuPont Industrial Partners, LLC**

1201 Pacific Avenue, Suite 1501  
Tacoma, Washington 98402

Prepared By:

Nancy E. Sikes, Ph.D., RPA



1508 Eureka Road, Suite 170  
Roseville, CA 95661

Final– April 14, 2011

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<b>Discovery Procedures .....</b>	<b>2</b>
<b>Inadvertent Discovery of Archaeological Deposits .....</b>	<b>2</b>
<b>Inadvertent Discovery of Human Skeletal Remains .....</b>	<b>3</b>
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<b>References.....</b>	<b>4</b>

## INTRODUCTION

DuPont Industrial Partners, LLC (Partners) plans to undertake various ground-disturbing activities during planned construction of a multi-building industrial park on Lot Y in the City of DuPont in Pierce County. This Discovery Plan presents the approach that Partners will use to ensure the protection of cultural resources and describes the steps and actions that must be taken should cultural resources, including human remains, be discovered during ground-disturbing or construction activities for the proposed Lot Y project. This plan provides a brief description of the project, the location of the project, the potential for encountering cultural resources materials or deposits, the discovery procedures that will be employed, and who will be notified if archaeological materials or deposits, or human skeletal remains, are exposed during project implementation.

## PROJECT DESCRIPTION, LOCATION AND HISTORY

The project encompasses approximately 25.3 acres on private land known as Lot Y (Assessor's Property Tax Parcel No. 0119262019) located in the City of DuPont, Pierce County, Washington. Lot Y is located within the city limits west of Center Drive and north of Sequaltchew Creek. Partners plans to develop a multi-building industrial park on Lot Y. The complex would include up to 12 buildings totaling approximately 340,000 square feet of building area, roadways, loading areas, approximately 650 parking spaces, and installation of underground utilities.

Plans also include construction of a trail along the creek to the southwest of the industrial park. The existing historical marker erected by the DuPont Company in 1927 at the site of the former Methodist Episcopal Mission (45PI66) will be moved to the trailhead area where the public will have continued access. An interpretive sign explaining the history of the temporary encampment of the 9th U.S. Cavalry Buffalo Soldiers (45PI455) within Lot Y will also be erected.

The Lot Y project area is located within Section 26, Township 19 North, Range 01 East on the Nisqually 1981 USGS 7.5-minute topographic map (Willamette Meridian). Elevation within Lot Y ranges from 64 to 68 meters (210-223 feet) above mean sea level.

A cultural resources investigation for the Lot Y project was conducted for Partners by Parus Consulting, Inc. (PCI) (Sikes and Arrington 2011). The work was conducted under an Archaeological Excavation Permit approved by the Washington State Department of Archaeology & Historic Preservation (DAHP) on February 7, 2011 (Permit No. 2010-54). The study included background research, correspondence with cultural resources staff or Tribal Historic Preservation Officers (THPOs) for the Nisqually, Puyallup and Squaxin Tribes, and archaeological survey and excavation. The fieldwork was conducted in February and March 2011 and included examination of the surface and subsurface sediments in a series of shovel test probes and geotechnical exploration pits.

Monitoring of construction activities during project implementation was not recommended. Lot Y has been extensively disturbed beginning with historic period settlement in the early 1880s, then operation of the DuPont Powder Works in the early to mid-1900s (including use of part of Lot Y as a burning ground dump from the 1930s until 1945), followed by subsurface archaeological investigations and related artifact collection between 1989 and 2005 and by environmental remediation activities in 1999 and 2000. No evidence was found during the 2011 investigation of two previously recorded historic archaeological sites (45PI66 Methodist Episcopal Mission site and 45PI455 9th U.S. Cavalry Bivouac site) and one flaked stone isolate (45PI773), except for two brick fragments within the boundaries of 45PI66. Nor was there any evidence of two other archaeological sites (45PI63 Railroad Dump #3 site and 45PI64 Burning Ground Dump site) formerly located within Lot Y that were completely removed during hazardous

materials remediation. Two surface historic archaeological sites (GEO RR10 railroad track segment and Parus-01-11 concrete platform) were identified within Lot Y during the fieldwork in 2011, but they are not considered significant.

## **POTENTIAL FOR DISCOVERY**

The potential for discovery of buried archaeological materials, features or deposits, or of buried human remains, by implementation of this project is considered low. No significant cultural/archaeological sites are known to remain within the project area, and there has been extensive disturbance to the Lot Y landscape. The nearest known archaeological sites are located on the north bank of Sequalitchew Creek immediately outside of the Lot Y project area (set of concrete bridge abutments) and approximately 0.1 mile east of Lot Y near Center Drive on the north and south banks of the creek (flaked stone artifacts and locations of mid-1850s dwellings near the west palisade wall of 1843 Fort Nisqually).

No significant cultural resources were identified on the surface or within the subsurface sediments exposed in a series of 125 shovel test probes and 22 geotechnical exploration pits placed within Lot Y. Excavated in February and March 2011, the 2.5 foot-wide, 3-foot long shovel test probes ranged from 1.1 to 4.3 feet in depth. The geotechnical exploration pits averaged 10 feet deep, 3 feet wide, and 5 feet long. The subsurface sediments are gravelly sandy loam over gravelly sand with no soil matrix. Except for one brick fragment and a flat iron bar, there was no indication of a midden or other cultural deposits, artifacts or features within the 147 excavation units.

## **DISCOVERY PROCEDURES**

### **INADVERTENT DISCOVERY OF ARCHAEOLOGICAL DEPOSITS**

Archaeological deposits within the proposed Lot Y project are protected by Washington State law: Indian Graves and Records (Revised Code of Washington [RCW] 27.44), Archaeological Sites and Resources (RCW 27.53), and Archaeological Excavation and Removal Permit (WAC 25-48). Failure to comply with these could constitute a Class C Felony.

If any Partners employee, its contractors or subcontractors believes that he or she has inadvertently uncovered any cultural resource, then all work adjacent to the discovery shall cease, and he or she shall immediately notify the construction foreman, inspector, or on-site Partners representative who shall immediately notify the contact at Partners responsible for on-site activities:

**DuPont Industrial Partners, LLC**

Lia Estigoy

(253) 396-4860

A cultural resource discovery could consist of:

- Prehistoric and ethnohistoric materials such as flaked stone tools, tool-making debris, stone milling tools, fire-affected rock, basketry, culturally modified animal bone, fishing implements or soil darkened by cultural activities (midden).
- Historic materials might include remnants of railroad or roadway construction activities or other industry or commerce (e.g., railroad ties, concrete blocks, machinery parts), building remains, metal, glass, cans, or ceramic artifacts or debris older than 50 years.

For all types and classes of cultural/archaeological material other than human remains (see below), the person responsible for on-site activities shall immediately call the Washington State Department of Archaeology and Historic Preservation (DAHP), which is the state agency with jurisdiction over archaeological discoveries:

**Department of Archaeology and Historic Preservation (DAHP)**

Gretchen Kaehler, Local Government Archaeologist

Direct line: (360) 586-3083

Cell: (360) 628-2755

The DAHP representative, Ms. Kaehler, will advise Partners (represented by Lia Estigoy) of the specific course of action following the discovery of archaeological materials, deposits or features. For the discovery of human remains, see below. Such actions specified by the DAHP representative could include avoidance of the finds with protection in place, or an archaeological assessment and recovery if avoidance is unfeasible, among other options. Ground-disturbing activity in the vicinity of the find(s) cannot resume until it has been approved by the DAHP representative.

**INADVERTENT DISCOVERY OF HUMAN SKELETAL REMAINS**

For this project on non-federal and non-tribal lands in the State of Washington, procedures and actions for the inadvertent discovery of human skeletal remains or suspected human remains must comply with RCW 27.44, RCW 68.50 and RCW 68.60. If ground disturbing activities encounter human skeletal remains during the course of construction, then all activity **must** cease that may cause further disturbance to those remains and the area of the find must be secured and protected from further disturbance. In addition, the finding of human skeletal remains **must** be reported to the County Coroner and local law enforcement in the most expeditious manner possible. The remains should not be touched, moved, or further disturbed.

Immediate notification by phone shall be made to the County Coroner, local law enforcement and DAHP:

**Pierce County Coroner**

Dr. Thomas B. Clark III

3619 Pacific Avenue

Tacoma, Washington 98418

Telephone: (253) 798-6494

**DuPont Police Department**

1780 Civic Drive, Ste. 100

DuPont, Washington 98327

Telephone: 911 or (253) 964-7060

The Pierce County Coroner will assume jurisdiction over the human skeletal remains and make a determination of whether those remains are forensic or non-forensic. If the County Coroner determines the remains are non-forensic, then he or she will report that finding to DAHP who will then take jurisdiction over those remains and report them to the appropriate cemeteries or affected tribes.

The State Physical Anthropologist will make a determination of whether the remains are Indian or Non-Indian and report that finding to the affected parties. The DAHP will then handle all consultation with the affected parties as to the future preservation, excavation, and disposition of the remains. Ground-disturbing activity near the human remains may not resume until permission to resume work has been received by Partners from DAHP.

**Department of Archaeology and Historic Preservation (DAHP)**

Guy Tasa, State Physical Anthropologist  
1063 South Capital Way, Suite 106  
Olympia, WA 98501  
Direct line: (360) 586-3535

**SUMMARY**

Following the procedures presented in the Discovery Plan will ensure that ground-disturbing and construction activities for implementation of the proposed Lot Y project are in compliance with state and local laws that protect archaeological resources on public lands.

**REFERENCES**

Sikes, Nancy E., and Cindy J. Arrington  
2011 *Archaeological Survey, Testing and Monitoring at 45PI66, 45PI455 and 45PI773, DuPont Industrial Partners, LLC, Lot Y Project, City of DuPont, Pierce County, Washington*. Report prepared by Parus Consulting, Inc. for DuPont Industrial Partners, LLC.